THE

Horticulturist,

AND

JOURNAL OF RURAL ART AND RURAL TASTE.

VOL. I. MAY, 1847. No. 11.

CHARLES DICKENS, in that unlucky visit to America in which he was treated like a spoiled child, and left it in the humor that often follows too lavish a bestowal of sugar plums on spoiled children, made now and then a remark in his characteristic vein of subtle perceptions. Speaking of some of our wooden villages—the houses as bright as the greenest blinds and the whitest weather-boarding can make them, he said it was quite impossible to believe them real, substantial habitations. They looked "as if they had been put up on Saturday night, and were to be taken down on Monday morning!"

There is no wonder that any tourist, accustomed to the quiet and harmonious colour of buildings in an English landscape, should be shocked at the glare and rawness of many of our country dwellings. Brown, the celebrated English landscape gardener, used to say of a new red brick house, that it would "put a whole valley in a fever!" Some of our freshly painted villages, seen in a bright summer day, might give a man with weak eyes a fit of the ophthalmia.

We have previously ventured a word or two against this national passion for white paint, and it seems to us a fitting moment to look the subject boldly in the face once more.

In a country where a majority of the houses are built of wood, the use of some paint is an absolute necessity in point of economy. What the colors of this paint are, we consider a matter no less important in point of taste.

Now, genuine white lead, (the color nominally used for most exteriors) is one of the dearest of paints.* It is not therefore economy which leads our countrymen into such a dazzling error. Some mistaken notions, touching its good effect, in connection with the country, is undoubtedly at the bottom of it. "Give me," says a retired citizen, before whose eyes, red brick and dusty streets have been the only objects for years, "give me a white house with bright green blinds in the country." To him, white is at once the newest, cleanest, smartest, and most conspicuous colour which it is possible to choose for his cottage or villa. Its freshness and newness he prizes as a clown does

* We say *genuine* white lead, for it is notorious that four-fifths of the white paint sold under this name in the United States, is only an imitation of it, composed largely of *whiting*. Though the first cost of the latter is little, yet as it soon rubs off and speedily requires renewal, it is one of the dearest colours in the end.

that of his Sunday suit, the more the first day after it comes from the tailor, with all the unsullied gloss and glitter of gilt buttons. To possess a house which has a quiet air, as though it might have been inhabited and well taken care of for years, is no pleasure to him. He desires every one to know that he, Mr. BROADCLOTH, has come into the country and built a NEW house. Nothing will give the stamp of newness so strongly as white paint. Besides this, he does not wish his light to be hidden under a bushel. He has no idea of leading an obscure life in the country. Seclusion and privacy are the only blue devils of his imagination. He wishes every passer by on the river, railroad or highway, to see and know that this is Mr. BROADCLOTH's villa. It must be *conspicuous*—therefore it is painted WHITE.

Any one who has watched the effect of example in a country neighborhood, does not need to be told that all the small dwellings that are built the next season after Mr. BROADCLOTH's new house, are painted, if possible, a shade whiter, and the blinds a little more intensely verdant—what the painters triumphantly call "French green." There is no resisting the fashion; those who cannot afford paint, use whitewash; and whole villages, to borrow Miss MIGGS' striking illustration, look like "whitenin' and supelters."

Our first objection to *white*, is, that it is too glaring and conspicuous. We scarcely know any thing more uncomfortable to the eye, than to approach the sunny side of a house in one of our brilliant mid-summer days, when it revels in the fashionable purity of its colour. It is absolutely painful. Nature, full of kindness for man, has covered most of the surface that meets his eye in the country, with a soft green hue—at once the most refreshing and most grateful to the eye. These habitations that we have referred to, appear to be coloured on the very opposite principle, and one needs, in broad sunshine, to turn his eyes away to relieve them by a glimpse of the soft and refreshing shades that every where pervade the trees, the grass, and the surface of the earth.

Our second objection to white is, that it does not harmonize with the country, and thereby mars the effect of rural landscapes. Much of the beauty of landscape depends on what painters call *breadth of tone*—which is caused by broad masses of colours that harmonize and blend agreeably together. Nothing tends to destroy breadth of tone so much as any object of considerable size, and of a brilliant white. It stands harshly apart from all the soft shades of the scene. Hence landscape painters always studiously avoid the introduction of white in their buildings, and give them instead, some neutral tint—a tint which unites or contrasts agreeably with the colour of trees and grass, and which seems to blend into other parts of natural landscape, instead of being a discordant note in the general harmony.

There is always, perhaps, something not quite agreeable in objects of a dazzling whiteness, when brought into contrast with other colours. Mr. PRICE, in his Essays on the Beautiful and Picturesque, conceived that very white teeth gave a silly expression to the countenance—and brings forward, in illustration of it, the well known *soubriquet* which HORACE WALPOLE bestowed on one his acquaintances—"the gentleman with the foolish teeth."

No one is successful in rural improvements, who does not study nature, and take her for the basis of his practice. Now, in natural landscape, any thing like strong and bright colours is seldom seen, except in very minute portions, and least of all pure white

—chiefly appearing in small objects like flowers. The practical rule which should be deduced from this, is, to avoid all these colours which nature avoids. In buildings, we should copy those that she offers chiefly to the eye—such as those of the soil, rocks, wood, and the bark of trees,—the materials of which houses are built. These materials offer us the best and most natural study from which harmonious colours for the houses themselves should be taken.

Wordsworth, in a little volume on the Scenery of the Lakes, remarks that the objections to white as a colour, in large spots or masses, in landscapes, are insurmountable. He says it destroys the *gradations* of distances, haunts the eye, and disturbs the repose of nature. To leave some little consolation to the lovers of white lead, we will add that there is one position in which their favorite colour may not only be tolerated, but often has a happy effect. We mean in the case of a country house or cottage, deeply imbowered in trees. Surrounded by such a mass of foliage as Spencer describes,

> In whose *enclosed shadow* there was set
> A fair pavilion *scarcely to be seen*,

a white building often has a magical effect. But a landscape painter would quickly answer, if he were asked the reason of this exception to the rule, "it is because the building does not appear white." In other words, in the shadow of the foliage by which it is half concealed, it loses all the harshness and offensiveness of a white house in an open site. We have, indeed, often felt, in looking at examples of the latter, set upon a bald hill, that the building itself would, if possible, cry out,

> "Hide me from day's *garish* eye."

Having entered our protest against the general use of white in country edifices, we are bound to point out what we consider suitable shades of colour.

We have said that one should look to nature for hints in colour. This gives us, apparently, a wide choice of shades, but as we ought properly to employ modified shades, taken from the colours of the materials of which houses are constructed, the number of objects is brought within a moderate compass. Houses are not built of grass, or leaves, and there is, therefore, not much propriety in painting a dwelling green. Earth, stone, bricks, and wood, are the substances that enter mostly into the structure of our houses, and from these we would accordingly take suggestions for painting them.

Sir Joshua Reynolds, who was full of an artistical feeling for the union of a house with its surrounding scenery, once said, "If you would fix upon the best colour for your house, turn up a stone, or pluck up a handful of grass by the roots, and see what is the colour of the soil where the house is to stand, and let that be your choice." This rule was not probably intended to be exactly carried into general practice, but the feeling that prompted it was the same that we are endeavoring to illustrate—the necessity of a unity of colour in the house and country about it.

We think, in the beginning, that the colour of all buildings in the country, should be of those *soft and quiet shades*, called neutral tints, such as fawn, drab, gray, brown, &c., and that all positive colours, such as white, yellow, red, blue, black, &c., should always be avoided; neutral tints being those drawn from nature, and harmonizing best with her, and positive colours being most discordant when introduced into rural scenery.

In the second place, we would adapt the

shade of colour, as far as possible, to the expression, style, or character of the house itself. Thus, a large mansion may very properly receive a somewhat sober hue, expressive of dignity; while a country house, of moderate size, demands a lighter and more pleasant, but still quiet tone; and a small cottage should, we think, always have a cheerful and lively tint. Country houses, thickly surrounded by trees, should always be painted of a lighter shade than those standing exposed. And a new house, entirely unrelieved by foliage, as it is rendered conspicuous by the very nakedness of its position, should be painted several shades darker than the same building if placed in a well wooded site. *In proportion as a house is exposed to view, let its hue be darker, and where it is much concealed by foliage, a very light shade of colour is to be preferred.*

Wordsworth remarks, in speaking of houses in the Lake country, that many persons who have heard white condemned, have erred by adopting a *cold slaty* colour. The dullness and dimness of hue in some dark stones, produces an effect quite at variance with the cheerful expression which small houses should wear. "The flaring yellow," he adds, "runs into the opposite extreme, and is still more censurable. Upon the whole, the safest colour, for general use, is something between a cream and a dust colour."

This colour, which Wordsworth recommends for general use, is the hue of the English freestone, called *Portland stone*—a *quiet fawn* color, to which we are strongly partial, and which harmonizes perhaps more completely with all situations in the country than any other that can be named. Next to this, we like a *warm gray*, that is, a drab mixed with a very little red and some yellow. *Browns* and *dark grays* are suitable for barns, stables and outbuildings, which it is desirable to render inconspicuous—but for dwellings, unless very light shades of these latter colours are used, they are apt to give a dull and heavy effect in the country.*

A very slight admixture of a darker colour is sufficient to remove the objections to white paint, by destroying the *glare of white*, the only colour which reflects *all* the sun's rays. We would advise the use of soft shades, not much removed from white, for small cottages, which should not be painted of too dark a shade, which would give them an aspect of *gloom*, in the place of *glare*. It is the more necessary to make this suggestion, since we have lately observed that some persons, newly awakened to the bad effect of white, have rushed into the opposite extreme, and coloured their country houses of such a sombre hue that they give a melancholy character to the whole neighborhood around them.

A species of monotony is also produced by using the same neutral tint for every part of the exterior of a country house. Now there are features, such as window facings, blinds, cornices, etc., which confer the same kind of expression on a house that the eyes, eyebrows, lips, &c. of a face, do upon the human countenance. To paint the whole house plain drab, gives it very much the

* It is very difficult to convey any proper idea of shades of colour by words. In our "*Cottage Residences*," we have attempted to do so by a plate showing some of the tints. We would suggest to persons wishing to select accurately, shades for their painter to copy, to go into a stationer's and examine a stock of tinted papers. A great variety of shades in agreeable neutral tints, will usually be found, and a selection once made, the colour can be imitated without risk of failure. The paper of our *frontispiece*, may be taken as an example of a fawn colour of the *lightest* shade we would ever employ for a house—four or five shades darker is the colour of the English Portland stone. The *gray* of the cover of this journal, is as dark a shade as wooden houses can usually be painted with good effect.

same dull and insipid effect that colourless features — (white hair, pale eye-brows, lips, &c. &c.) do the face. A certain sprightliness is therefore always bestowed on a dwelling in a neutral tint, by painting the bolder projecting features of a different shade. The simplest practical rule that we can suggest for effecting this, in the most satisfactory and agreeable manner, is the following: Choose paint of some neutral tint that is quite satisfactory, and let the facings of the windows, cornices, &c. be painted several shades darker, of the same colour. The blinds may either be a still darker shade than the facings, or else the darkest green.* This variety of shades will give a building a cheerful effect, when, if but one of the shades were employed, there would be a dullness and heaviness in the appearance of its exterior. Any one who will follow the principles we have suggested cannot, at least, fail to avoid the gross blunders in taste which most common house painters and their employers have so long been in the habit of committing in the practice of painting country houses.

Uvedale Price justly remarked, that many people have a sort of *callus* over their organs of sight, as others over those of hearing; and as the callous hearers feel nothing in music but kettle drums and trombones, so the callous seers can only be moved by strong opposition of black and white, or by fiery reds. There are, we may add, many house painters who appear to be equally benumbed to any delicate sensations in *shades* of colour. They judge of the beauty of colours upon houses as they do in the raw pigment, and we verily believe would be more gratified to paint everything chrome yellow, indigo blue, pure white, vermillion red, and the like, than with the most fitting and delicate mingling of shades to be found under the wide canopy of heaven. Fortunately *fashion*, a more powerful teacher of the multitude than the press or the schools, is now setting in the right direction. A few men of taste and judgment, in city and country, have set the example by casting off all connexion with harsh colours. What a few leaders do at the first, from a nice sense of harmony in colours, the many will do afterwards, when they see the superior beauty of neutral tints, supported and enforced by the example of those who build and inhabit the most attractive and agreeable houses, and we trust, at no very distant time, one may have the pleasure of travelling over our whole country, without meeting with a single habitation of glaring and offensive colour, but every where see something of harmony and beauty.

* Thus, if the colour of the house be that of Portland stone, (a fawn shade,) let the window casings, cornices, etc. be painted a light brown, the colour of our common red freestone—and make the necessary shade by mixing the requisite quantity of brown with the colour used in the body of the house. There is an excellent specimen of this effect in the exterior of the *Delavan House*, Albany. Very *dark* green is quite unobjectionable as a colour for the venetian blinds, so much used in our country—as it is quite unobtrusive. Bright green is offensive to the eye, and vulgar and flashy in effect.

DESCRIPTION OF TWO NEW AMERICAN PEARS.

BY DR. W. D. BKINKLE, PHILADELPHIA.

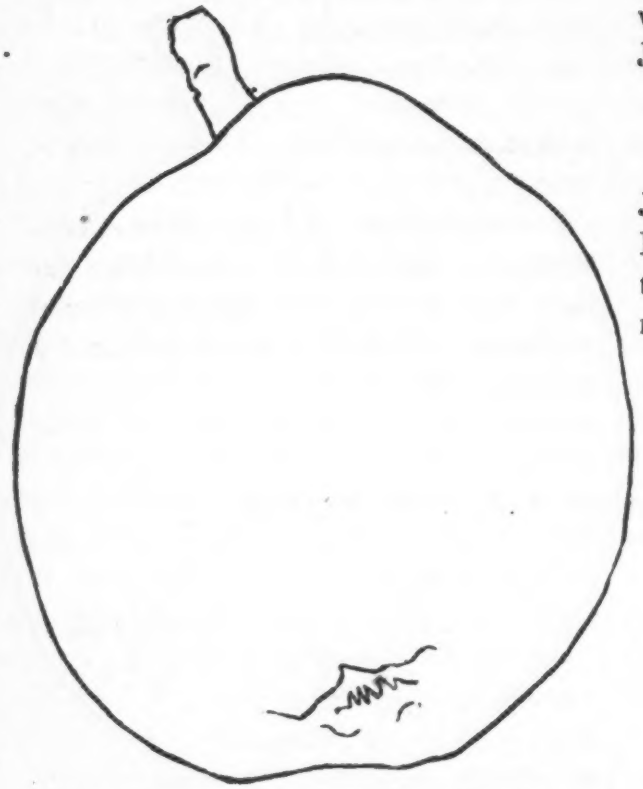

Fig. 111. SMITH'S MOYAMENSING.

THIS fine summer pear originated in the garden of J. B. SMITH, Esq., the well known Philadelphia amateur horticulturist. The original tree is 70 or 80 years old, and has always been a constant and uniform bearer. Mr. SMITH's residence being in the district of Moyamensing, this pear was named Smith's Moyamensing, by the Pennsylvania Horticultural Society, in 1845.

Fruit, of medium size, and in some seasons quite large, of a roundish obovate form, with a fleshy stem, nearly an inch long. *Skin*, of a lemon colour, with occasionally blotches and lines of yellowish russet. *Calyx*, set in a furrowed basin, these furrows sometimes extending some distance up the sides. *Flesh*, buttery, melting, and well flavored. Ripens from the middle of July till September.

THE HADDINGTON PEAR.

This new winter pear was also raised by J. B. SMITH, Esq., from a seed of the Pound Pear, planted in 1827. It fruited for the first time in 1840. The fruit was exhibited at a meeting of the Pennsylvania Horticultural

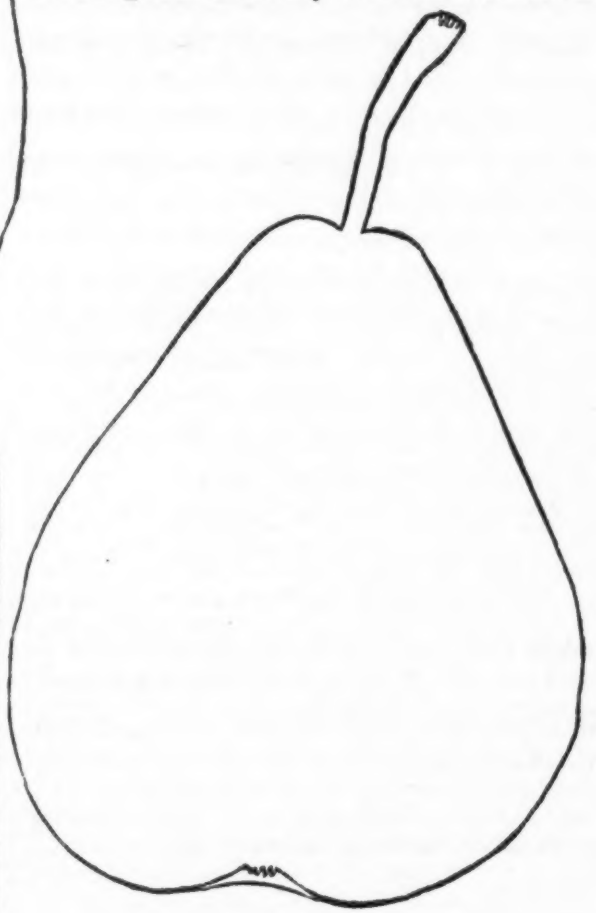

Fig. 112. *The Haddington Pear.*

Society, in Feb. 1841, and was named by the Society, "Haddington;" it having been grown by Mr. SMITH during his residence at that place, though it now stands in his garden in Moyamensing.

My acquaintance with the merits of this fruit commenced on the 22d of October, 1846. On that day, while passing under the tree, I picked up a prematurely ripe, half decayed fruit, from the ground, and was agreeably surprised at its fine flavor. Mr. SMITH had more than once recommended this pear to my notice; but the unfavorable impression made on me by its parentage prevented an earlier estimate of its value.

The fruit is above medium size, obovate, sometimes pyriform, and regularly sprinkled with small, distinct russety dots: when fully ripe, of a greenish yellow colour, with occasionally a faint brownish check. *Stalk*, slender, three-fourths to one inch in length, inserted in a small cavity; sometimes there is an elevation on one side of this cavity. *Calyx*, small, in a round shallow basin.

Flesh, of a beautiful golden color, crisp, juicy, with a rich aromatic flavor.

Ripe from January till April.

W. D. B.

Philadelphia, April, 1846.

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[We are not only indebted to our esteemed friend for the foregoing description and outlines of these interesting native fruits, not before published, but also for grafts of the same.—ED.]

A REVIEW OF OPINIONS ON PEAR TREE BLIGHT.

BY L. C. EATON, OF PROVIDENCE, R I.*

ANOTHER theory is that the disease arises from varieties having arrived at or near their natural limits of duration. Dr. DARWIN, in his dissertation on the diseases of plants, describes, under the title canker,* or gangrena vegetabilis, a disease which we should presume to be fire blight. He calls it an ulcer of the bark, and says it is very destructive to apple and pear trees, and recommends that the affected parts should be cut out, and paint laid on the hard wood. He states that "Mr. KNIGHT has remarked that this disease is most apt to attack those fruits which have been long known, and supposes it to be a disease of old age." This seems to be the opinion of COXE, who says, "From repeated observation of the kinds, most liable to this malady, (the fire blight,) I have been led to believe that it is somewhat connected with a principle which appears to be considered sound by the most judicious European writers, when treating of apple trees, that is, the long duration of the variety. It is certain that natural trees, continually springing up from seed, are seldom attacked by this disease; and the Seckel pear, generally supposed to be a new variety, is but little affected by it; of fifty bearing trees of this kind, of various ages, I have not lost one entire tree from this cause. This year, for the first time, I have seen the limbs of some of them partially affected, and in some instances several large branches have been destroyed."

Before any reliance can be placed upon the correctness of this theory, it is necessary to establish the fact that the existence of varieties is limited to a certain period, a question frequently discussed and of much doubt. The disease, however, not only attacks old varieties, but those of more recent

* We presume that the fire blight in Europe is generally called canker. MCINTOSH, treating of pears, speaks of canker "caused by the wood being imperfectly ripened in bad autumns."

* Concluded from last No.

origin. The *Passe Colmar*, for instance, when young, is particularly subject to it. The *Seckel*, though generally healthy, is sometimes affected by it. We believe, however, that it is more so now, than when COXE wrote, some thirty years since. That this kind was occasionally subject to it, we should suppose, would have led him to entertain doubts as to the correctness of his theory.

An opinion has been advanced, of late, that the disease "is an epidemic, that it prevails like other epidemics, and will pass off like them;" and that infection is transmitted by the air. This opinion is open to the same objections as that which ascribes it to electricity, or any atmospheric influence. The leaves and extremities of the branches would always first indicate its presence. The whole system of sap wood, through which the juices circulate, would soon become so contaminated, that in no case would a withered limb, or discolored patches of bark upon the trunk or main branches, mark, at any one time, the limits of the "infection," but would show that it had progressed so far, that it would be useless to attempt any remedy. The whole tree would be diseased, as for instance, the peach by the yellows, and not parts of it. If a limb is badly injured by frost, disease may be prevented by cutting it off, but we should as soon think of stopping the small pox by amputation, as the fire blast, if it be an epidemic. If "an epidemic, like the Asiatic cholera," it would equally affect pears of native and those of foreign origin —as well those standing in "close plantations" as those a few feet more distant from each other, upon dry as upon wet soil, and would be as likely to prevail or be as destructive in one locality as another, in Europe as in our own country. If it be an objection to the frozen sap theory, that it attacks "old instead of young trees," it is also an objection equally applicable to the belief that the "blight is an epidemic." The same difficulty would remain to be accounted for, if the fact be as stated, but it is not so. "Saplings in our nurseries" are cut down, as well as those "which have for many years borne fine crops of pears." Perhaps not as frequently, but still to some extent. "I have noticed," says a careful observer, "this disease to attack pear trees in almost every stage of growth. The time, however, that it appears to be most decisively destructive, is about the period of their approach to the degree of maturity, which promises a remuneration for the anxious and attentive cultivator." Nor is it true, as has been supposed, that the frozen sap theory asserts "that the disease is contracted at the extremities, and is from thence conveyed through the system by the circulation of the fluids," but that the trunk and main branches are first affected, and that the tree may be seriously, if not fatally diseased, when the extremities appear flourishing. Nor does the theory suppose that it arises from severe frost merely, but by sudden and frequent alternations of heat and cold, operating upon the fluids while in circulation. Whether the injury is sustained in the spring, or in the fall previous to the season during which the disease shows itself, and the manner in which it operates, may be questions of some doubt with those who entertain this belief.

A correspondent of Maryland, to the *American Farmer* in 1821, remarks, "In all the various suggestions as to the cause of this disease, I never heard of one that came near the fact, which is more to be wondered at, as the real cause has been so strongly indexed by notorious facts. Such, for in-

stance, as hard winters, with long cold springs, giving us good pears and leaving us sound trees, while a warm February, followed by a cold March, destroys our trees. We have long been acquainted with this much of vegetable physiology, that the bark forms on its interior surface longitudinal fibres, the same as sap wood, and by this means adheres to the main sap wood, becoming one and inseparable, and that when a certain temperature, say that of April, becomes steady, that those same fibres, having lost their colour, throw out juices and form fibres differently disposed and coloured, or bark. It is a well known fact that the finest kinds of pears are introduced from a milder climate than 39 degrees, and therefore are very sensible to both cold and heat. They are trees that abound with juices, as may be seen by the numerous scions that they fling up around them. If the later part of winter or early spring is warm, these juices are set afloat, especially if the ground is rich and cultivated. In this degree of light and heat, the bark begins to form a separation to take place from the new made sap wood, and in a few days winter; returns upon the tree, or in other words February has been spring and March winter; an imperfect bark is thus separated from the mother white wood and sickens, and, as heat is farther applied, dies. It is sometimes the middle of the summer before the damage is developed." And the writer states the following facts, that he has known only two sets of healthy pear trees, and they were neither manured nor dug round for years; the suckers were permitted to grow undisturbed, and the grass surrounded them unbroken; and that they were not only perfect, but bore fruit when others failed. He had two *healthy pears*, "*the Vergalieu*, the one was choked with grass, and the other so surrounded with scions as scarcely to admit of approach." He removed the "scions," and dug and manured the ground, and both perished; and he gives another instance within his knowledge, where the same effect was produced by similar treatment. He supposes, in the first instance, "that the abundant juices were restrained," and recommends that the trees, after they have arrived at the fruit bearing period, should be untouched by the knife, and "suffered to vegetate naturally." He also states his belief that the application of any composition, such for instance as whitewash thickened with ashes and cow dung, spread upon the body and larger limbs, instead of being beneficial, "might be the very cause of death," and advises the trial of such experiments as will prevent "the too free and *early* circulation of the sap."

Unimportant as it may seem, whether the disease is produced by the freezing of the sap in the autumn or spring, yet in our apprehension, the writer committed serious errors as to the remedies to be used to guard against it, by simply mistaking the time when the injury is sustained. We have no doubt that the trees he refers to as perishing, which were of a variety by some supposed to have arrived at or near the limits of its duration, were neither attacked by an epidemic, nor by a disease produced by reason of "long continuance," but destroyed in consequence of the means taken to promote their growth. The removal of the grass, "unbroken for years," and of the abundant quantity of suckers, which surrounded them, (to the extent of nearly forty feet,) and the application of manure, occasioned a vigorous late growth that became fatal. "The only severe case of blight in gardens here," says Downing, "during the summer of 1844, was in the head of a *Gilogil* pear, a very hardy sort, which had never before suffered. The previous mid-

summer, it had been severely pruned and headed back, which threw it into late growth. The next season, nearly the whole remaining part of the tree died, with the frozen sap blight.* Instead of endeavoring to check early vegetation, those varieties should rather be selected, "which are of early habit, and ripen their wood fully before autumn."

Why is it, if "hard winters with long cold springs give us good pears and leave us sound trees," while a warm winter followed by a cold spring "destroys our trees," that the disease is not more prevalent in England, where it is comparatively unknown? The winter there is much milder, and vegetation earlier, and cold winds and sharp frosts, succeeded by hot sunshine, *often occur in the spring*. The truth is, we believe, that the autumn is not there so warm, nor vegetation so late and vigorous, nor the atmosphere subject to such sudden, severe and frequent changes at that season, as here; and in consequence the trees escape from the injury originating the disease.

A slight protection will guard against cold. In England, netting is successfully used to prevent wall fruit from being injured by spring frosts. Ropes of straw stretched in front of the trees, two feet apart, and from six inches to two feet from the wall, have been found to answer the same purpose. And we have no doubt that the fire blight may be prevented by either coating the trunk and main limbs with a composition, or by binding matting or straw around them, if done at a seasonable period in the fall.

In *Thacher's Orchardist*, it is stated, under the title canker, that Mr. YATES, of Albany, says "it seems extraordinary that the fruit trees in this climate *are almost invariably affected on the south-west side of the trunk or body*. There it generally commences;" the bark first appearing dark, at length rough, wrinkled, cracked and dead. And it is Yates' opinion that it is caused by cold overtaking the circulation of the sap in the spring. "Fruit trees," he remarks, "generally incline to the north-east. The motion of the sap, which ascends in all vernal months in all deciduous trees, is accelerated by the hot rays of the sun at the south-west. It is retarded and stagnated by the cool of the nights, and by alternate thawing and freezing, particularly at that side of the tree, the vegetation is at last destroyed and mortification ensues." Whether the conclusion arrived at as to the time when the disease is contracted, is questioned, but the circumstance as to the part of the tree more generally injured would strongly indicate its cause; and the inquiry is well worthy being made whether the incident be true or otherwise.

Whatever theory has been advocated as to the origin of the disease, the statement of facts relied upon, the truth of which has been well ascertained, leads to a strong probability of the correctness of the views expressed by DOWNING in his treatise upon *Fruits and Fruit Trees*.* Much weight is added to them by the circumstances related in the extracts there made from an article written by Mr. BEECHER.

* *Note.*—Trees which have arrived at the fruit bearing period are often seriously injured, and sometimes destroyed by being grafted and subsequently pruned injudiciously. Pear trees are the greatest sufferers. We have known very many to be killed by these means. Only a part of the tree should be grafted at one season, and the strong watery shoots that sprout from the limbs should not be removed till the succeeding year.—[Excellent advice.—ED.]

* *Note.*—In *Deane's American Farmer*, there is a highly interesting article upon mildew, principally relating to the distemper in grain called rouille or rust. The investigations of several learned and scientific observers are given. It is ascribed by them to the same or a similar cause to which DOWNING ascribes the fire blight.

Our attention has been for some years directed to this disease, and we would give what testimony our own experience furnishes. We have lost some trees by it, though fortunately not many, as well other fruit as pears. Five years since we set out two rows of Tartarian cherries in a garden, which has for very many years been highly cultivated. The soil is rich, and a part of it so moist as to require draining. The trees made a rapid growth. The second season after they were transplanted several died, presenting the appearance of having perished by the fire blight. This led us to watch them more closely. Early last spring, before a leaf had shown itself, we examined the rows and discovered upon using the knife that the entire inner bark and sap wood of the trunk of one, and part of that of another tree, was dark and much discolored. The limbs and roots appeared sound. Without disclosing the result of our examination, we then, and twice subsequently, after vegetation had commenced, called the attention of the gardener to the rows, requesting to know whether there was any perceptible difference in the appearance of any of the trees. None was observed by him. The two referred to put forth leaves, blossomed, formed fruit, made considerable growth at the extremities, and appeared vigorous. About the first of June, a change took place; the leaves turned yellow, the fruit gradually fell off, the branches withered, and about the middle of the month the trees perished. In each instance of loss, the trees stood where the ground was moist, and were more closely surrounded by other trees. A thrifty pear standing near by now presents the same early symptoms.

Why trees suffer more in moist than dry soil, and in close than open plantations, may be readily accounted for. A moist rich soil promotes a late growth. Close plantations are usually more highly cultivated. In fruit gardens, rapid growth is desired. When the soil is made rich, there is a disposition to crowd in too large a number of trees, and the ground is overstocked. The trees shade each other, and when covered with foliage, prevent evaporation of moisture and a free circulation of air. The thrifty wood, more succulent and less matured than that of trees in more open situations and less cultivated, is more easily injured by the excessive changes in the atmosphere, which sometimes occur in the autumn months.

One reason, we apprehend, why this disease prevails with the pear more at the West than any other section of the country, is the greater fertility of soil. A poor soil is by no means desirable, but that which is deep and rich promotes an over-luxuriance of growth, and produces wood buds instead of fruit buds, two evils which art must seek to avoid. McIntosh, in his treatise upon the Orchard, remarks that Rogers assigns for a reason why the quince stock has become so popular, (in England,) is, "the bad success attending the ordinary method of planting pears worked on seedling stocks in too deep and rich borders, which causes such exuberant growth and consequent barrenness, that the trees were only useless encumberers of the ground. Had the borders been properly prepared by having a hard dry bottom, with a surface layer of light fresh loam, about fifteen inches deep only, the same trees would have taken a kindly growth, and very soon would have been fruitful." He observes that the opinion of Sanders, nurseryman, of Jersey, given in the *Gardener's Magazine*, is much to the same effect. "Free stocks are very preferable where the soil is high and dry." McIntosh remarks that "from eighteen inches to two feet and a half of soil is quite suf-

ficient, and the roots should be prevented from extending to greater depth by forming artificial floors, or placing broad flag stones under them;" and he recommends pruning the roots—which he says "is an old practice that does not appear to have been so generally attended to as it deserves," not only to check too vigorous growth and produce fruitfulness, but to prevent disease.

From these and similar statements we are led to believe that the disease may be avoided in some localities by selecting pears worked on quince instead of free stocks, and that root pruning, systematically followed out, would be found highly beneficial where the soil is very fertile and the growth is excessively luxuriant.

In propagating this fruit, no one should utter complaint or be discouraged, though its enemy is at times so destructive, so little has as yet been done to guard against its attacks. Let every experiment, which promises a reasonable hope of success, be faithfully tried, and we doubt not, though entire protection may not be the result, that loss will be rendered much less frequent, and comparatively of little consequence. L. C. E.

GRAFTING, PLANTING AND PRUNING OF DWARF PEAR TREES.

By SAML. G. PERKINS, Esq., BOSTON.

Regarding the cultivation of pears on quince stocks, I may remark in the outset, that the soft-fleshed or buttery pears are those that are best suited to the quince bottoms, the breaking or hard flesh being better suited to the pear or free stock.

In our climate, (New-England,) the springs are too harsh, and the true summer period generally too short to ripen pears, and some other fruits, sufficiently for autumn and winter use. The warmest and most sheltered positions, therefore, in your garden, should be selected for your winter pears, particularly for the *Easter Beurre*, *Chaumontel*, *Winter Nelis*, *Glout Morceau*, *St. Germain*, *Passe Colmar*, and *Napoleon*.

If you receive your young rooted cuttings or layers of quince in the spring, it may be well to graft them BEFORE you plant them, if you have a convenient place under cover, where the operation can be performed, by a single person, on several hundred in a day. The scions should be put within two or three inches of the collar where the upper roots start out so as to enable you to bury the wounded portion of the graft below the ground. This is usually preferable to grafting them AFTER they are planted, as it may be both easier and more correctly done, as well as much more quickly performed. I have frequently grafted young pear stocks in this manner, and found them to succeed perfectly. When these trees have attained a proper size, in the nursery, to be planted out where they are to remain to produce fruit, be careful to have them placed on the *highest* ground, and not in *hollows*, where the water can lodge.

Some cultivators think it best to dig large *holes* under the spot where the trees are to be set, filled with rich soil, but I think this is a mistake; for, if there be any evil arising from the roots being confined within a hole surrounded by a hard pan, which will keep the water from passing off, the evil is not avoided by putting the tree over and above the hole; for if the soil in this cavity be richer than that which is above its borders,

most, if not all, of its roots will be drawn into this enticing and exciting food, and all the evils of luxuriant or *glutton* branches, as well as those of heated and decayed roots, arising from stagnant and putrid deposits of water that has no outlet, must be expected.

We think that the best mode, both in gardens and orchards where fruit trees are to be planted, (unless they already lie on *sloping* ground,) is to plant them on the *top of ridges*, made at proper distances, and just high enough to carry off the water gradually after it has passed over the roots of the trees; but I should not allow any depression of the soil under the tree, where the water could lodge for any time. Neither should I allow any manure or extra rich soil to be deposited in the neighborhood of the roots. If your trees become weak, a pure, good, virgin soil applied in the fall or spring by partially uncovering their roots, is the best remedy you can give them. The soil of the nursery should not be as rich as that of your garden, into which your trees, when large enough, are to be transplanted; because the change from very rich to poor soil has a tendency to check their growth, and is an essential injury to them.

When young trees are planted out into the nursery, or elsewhere, the tap roots, if they have any, should be cut out close to the stem; the lateral roots should be spread horizontally, (a little depressed,) so as not to interfere by crossing each other; and the upper roots should be covered about two or three inches deep over the upper part of them, at their insertion.

In preparing the places where the trees are to be planted out permanently, it is best to throw the earth out into *one* pile, several days before they are planted; this will separate the lumps and stones from the fine earth, which you will want to fill up among the roots; every part of which should be brought into contact and entirely covered with the earth, as any parts of the roots left exposed to the air are apt to mould and decay.

As your trees develop their branches you will see whether they are best suited to be pruned to make *Espaliers* or *Standards*, and will treat them accordingly.

In doing this, if you wish for trees to fill out your trellises, and any of the trees destined for this purpose should want a branch or two to make them uniform, they can be easily supplied by inarching from the same tree, a limb already perfect, into the side of the trees where the deficiency exists, and, when it has taken hold securely, cut it off close to the grafted part, and you will fill up all vacancies, although you will shorten and disfigure, in some measure, the branch or branches applied to this object. But the branches so cut and disfigured, will soon be restored to form and order by care of the gardener. This is a much surer and more advantageous mode of obtaining your object than that of inserting *buds* or *grafts* in the naked places, because the branch thus inserted may be a *fruit-bearing branch* in lieu of a wood bud or scion that will not bear fruit for several years.

When the *Standard* trees have attained in the nursery sufficient growth to be removed into the garden, those that have their stems well furnished all around with branches from bottom to top, that is to say, from a foot or nine inches from the ground to within the same distance of the top, may be treated and pruned as *pyramids* or *conical standards*. This form, when properly pruned, will give the greatest quantity and best quality of fruit.

Fig. 113. *Conical Dwarf Pear Tree,*

This form is produced by carefully pruning the branches so as to diminish gradually from the lowest that surround the tree at its base, up to those that form the uppermost tier at the top of the tree, so that when the tree has attained its utmost height, say 8 or 10 feet, according to the fancy of its owner, it will resemble a truncated cone, by taking out the leading shoot down to the upper row of branches.

This is to be brought about by degrees, as the tree advances in its growth, pruning the lowest branches to a length not exceeding 4½ feet on trees ten feet high, and 4 feet on those that are only 8 feet high, when the form of the tree is perfected, and diminishing the length of each successive tier of branches from about four to six inches in length, according to the distance that exists between their stages. When your tree has attained the requisite height of eight or ten feet, to the upper tier of branches, you cut out the *leading* shoot (*a*) close to their insertion, as before mentioned.*

While this operation of regulating the length of the branches is going on, great care must be taken to prune the side shoots on each circle of branches, so as to produce *Fruit Spurs*, or what the French call *Bouquets.*

If the trees, when taken from the nursery, are not well furnished with branches all around the stem, or have them only towards the upper part of it, then it will be best to prune them in the usual way for *headed* Standards.

Respectfully yours,

SAML. G. PERKINS.

Brookline, near Boston, March 18, 1847.

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* Fig. 113 represents a dwarf pear trained in the *conical* form—perhaps the very best, as our correspondent observes, for the production of a large quantity of fruit in a small space.

We will add to Mr. PERKINS' judicious suggestions that, perhaps, the best way to grow trees in this form, when suitably branched ones cannot be obtained from the nursery, is to choose a tree of but *one year's growth* from the graft. Two or three years' old trees are usually bare of branches at the lower part of their stems. Shorten back the single or leading shoot of this young tree to within one foot or 18 inches of the ground at the time of planting it. This will develop the lower branches; to encourage the growth of which still more, it is well to shorten back the leading shoot, about the first of July. This will, about the middle of the growth the next spring, cause to start out another tier of branches a foot above the last. The next summer, in July, the leader is again cut back to within a foot of the last tier, which will cause the growth of a third set, and this must be repeated every year till the tree is from 6 to 10 feet high, as the taste of the cultivator may dictate. *Pinching off*, in summer, the ends of such side-shoots that are inclined to grow too long, is considered a better mode than pruning them.—ED.

THE FRUIT GARDEN AT WODENETHE,

THE RESIDENCE OF H. W. SARGENT, ESQ., DUTCHESS CO., N. Y.

Our friend Mr. Beecher, in his capital journal, published at Indianapolis, spoke, some time ago, with a good deal of emphasis, and a good deal of regret, of *our* "amiable fondness for the localities of the Hudson river." He thinks we have underrated the flavor of western fruits, and given rank to Eastern New-York at the expense of other fruit-growing regions. After this lamentation over our bias, Mr. Beecher concludes, very naturally, by saying that "the western States, say Ohio, Indiana, Kentucky, and portions of Illinois, are, the whole range of the orchard being considered, better fruit-growing States than New-York or New-England." 'Tis always thus; both his and our readers will say,

> "The patriots' boast where'er we roam,
> His first, best country, ever is at home."

We have at times fancied that one might be unprejudiced, and that one could do justice on the one hand to the high culture of Boston, and on the other to the great natural fertility of the west. But alas! we have said that "the apples, raised on the very *fertile bottoms* of the western States," are inferior in flavor to those grown on the best orchard soils of this section of the country!

We have some doubts, after this rank offence, (for we did *not* say that there were not many orchards on proper soils, in the west, that give finely flavored apples)—we say after this offence, we are a little fearful that Mr. Beecher will take it into his head that New-York is not a fruit-growing State at all, and that the "localities of the Hudson" are only barren boundaries to a considerable stream of water. He will forget the Pelham farm orchard, the largest in the world, with 200 acres of Newtown pippins, that supplies all London market; and Dr. Underhill's vineyard, not excelled in America, that supplies all New-York; he will forget the famous plum gardens of Hudson and Albany where the curculio is unknown; he will not remember that the *Esopus Spitzenbergh* and the *Swaar*, the highest flavored apples,—and the *Jefferson*, and the *Columbia*, the largest and best yellow and purple plums, that the *George the IV*, the best American peach known; all originated in the valley of the Hudson. Yes, we have unluckily said that the west, that magnificently fertile country, which by its fertility, is at this moment helping to feed the world, *has* many "fertile bottoms," and that those fertile bottoms give "very large and beautiful," but not the highest flavored apples.

Some western editor, who has become a little "riled" at any supposed attack upon the character of western apples, has boldly proposed to settle the matter by showing specimens with any eastern orchardists. But we solemnly advise our orchardists to decline the challenge. There would be no chance for them. There is not one fruit committee in America in an hundred, that would not, in a moment, sacrifice *flavor* to *size*. Their "mavellousness" is a great deal larger than their "alimentiveness," as the phrenologists say; and unless we could cleverly contrive to inarch pumpkin vines on the branches of our apple trees, (as the French gardeners do tomatoes on potato hills) the "fertile bottoms" would outweigh, outmeasure, and outdo us!

Seriously, as we think all cultivators,

whether east or west, are interested in accounts of good cultivation of fruit, we must beg them to pardon us while we give them a peep into the fruit-garden of our neighbor, HENRY WINTHROP SARGENT, Esq. (see *Frontispiece.*) His residence is in Dutchess county, on the east bank of the Hudson, nearly opposite us, and 60 miles from New-York. Of the grounds, in an ornamental point of view, we may, perhaps, speak hereafter. At the present moment, we have only sufficient space for one portion of his place—the Fruit-Garden.

The fruit-garden at WODENETHE is a parallelogram, containing about two acres. It has been the aim of MR. SARGENT, who is a truly zealous amateur, to assemble in it a collection composed of every *very choice* variety of fruit known, and to reject all that were either known, or believed to be second rate. The selection has been made with the greatest care, from the best American and European sources, and it undoubtedly may be considered as the choicest and most complete private fruit-garden on the Hudson, and one of the best in the Union. Many of the trees were in fine bearing last season, and the largest part of them will probably give good crops this year.

			Varieties.
Of the choicest	pears	the garden contains	106
do	peaches	"	60
do	plums	"	56
do	nectarines	"	14
do	apricots	"	12
do	native grapes	"	11
do	cherries	"	20
do	quinces	"	3
do	raspberries	"	6
do	currants	"	4
do	strawberries	"	14
do	gooseberries	"	*12

* *Apples* in another part of the grounds.

Besides these, there is a *Vinery*, 120 feet long, 20 feet wide and 13 feet high—a very light and handsome glazed structure, with a *curvilinear*, span roof. This house contains 85 vines, of the finest foreign grapes, in 31 varieties—as well as figs, apricots and nectarines.

Our FRONTISPIECE gives a glimpse of this *Vinery*, at the termination of the main walk of the fruit-garden. This walk is 428 feet long, and is bordered with an espalier rail, upon which many of the choicest peaches, grapes, plums, etc., are trained—not from necessity or for greater protection, as in gardens farther north, for all those fruits ripen perfectly on common standards here, but to give an illustration of this more perfect kind of culture, and to obtain fruit of a larger size and higher color than standards usually produce.

The soil of this garden is a gravelly loam, and it was thoroughly trenched, 3 feet deep, before the trees were planted. The advantages of this are apparent at a glance, in the healthy appearance of the trees, and the steady and uniform growth which they have made, ever since they were planted—even during the great drouth of 1844.

Among the rare pears, we noticed *Colmar d'Aremberg*, *Duchesse d'Orléans*, *Beurré Moiré*, *Broom Park*, *Soldat Laboreur*, and others of the latest celebrity in the collections of France and England.

The *Columbia* plum has borne very superb fruit at WODENETHE. We saw specimens there, last September, which measured *six inches* in circumference. *Royal Hâtive*, *Large Green Drying*, *Jefferson*, and many other fine sorts are showing fruit buds the present season. Amongst the native grapes are the *Ohio*, *Norton's Seedling*, *Diana*, *Shurtleff's Seedling*, etc.

It would be difficult to say which, of all

the different classes of fruit thrives best here, for the soil and climate are adapted, in an unusual degree, to all hardy fruits. It is one of the fortunate circumstances of this part of the Hudson, for which we indulge our "amiable fondness," that plums, apricots, and nectarines,—smooth skinned fruits, which are by no means produced with equal ease in all parts of the country,—succeed most perfectly here. There is a farmer, about two miles from WODENETHE, who has sold, of his own produce, nearly $2000 worth of plums in a season, and the gardens here abound with the finest gages.* Peaches are highly flavored, and so complete is the protection afforded by the steady temperature of the river against sudden changes, that we do not remember but a single year, when the crop of this fine fruit was destroyed by frosts. It is in this respect that we may fairly claim for a portion of the banks of the Hudson, as well as those fine districts bordering on the great lakes of this State and Ohio, a climate very unusually adapted to the growth of the finest fruits.

But we must forbear, or we shall receive a broadside from the west, which will disturb our *otium cum dignitate*, (or, as a witty gardening friend will have it, "*opium cum digitalis*,") for an indefinite length of time.

REMARKS ON THE SCIENCE OF GARDENING.—No. I.

BY DR. WM. W. VALK, FLUSHING, N. Y.

WE are inclined to think the subject an interesting one, and as fully calculated to lead to great improvements in the whole system of culture, as at present understood and practiced by the best horticulturists, either at home or abroad.

For many years, gardening, as well as agriculture, has been conducted upon very loose principles, and both are as yet but in their infancy. Every thing was, (and in most cases *is*,) routine; an overseer orders, and his juniors or laborers obey; no one gives a *reason*, and thus are *effects* produced without any inquiry into *causes*. These facts, which all acknowledge, and many lament, indicate, beyond all doubt, that seminaries or institutions are required wherein every element of the art should be strictly investigated by competent persons, and the results be taught to the pupils of the establishment, who should go through a regular course of experimental inquiry in all its departments.

For *agriculture*, something has been done. A state of torpid ignorance no longer exists; and seminaries or schools of investigation, have been suggested, and steps taken to establish them. In France and Germany vast improvements have been effected, as may be seen by a reference to "*Bache's Report on Education in Europe*," for a description of "The Institute of Agriculture and Forestry, at Hohenheim, near Stuttgard," described and reputed to be the most complete agricultural school in Europe. In the U. States a beginning has been made in furtherance of scientific agriculture, by MR. WILKINSON, who has advertised for pupils, and made arrangements for giving them instruction in all the details of theoretical and practical farming.

But not a single instance can be discovered of the establishment of a *Horticultu-*

* An acquaintance of ours, about two miles south of Newburgh, gathered last season 8 bushels of the finest *Elruge* nectarines from *four* standard trees, grown with little or no care.

ral school, wherein the science of gardening is even alluded to. In 1818, the *Jardin des Plantes* at Paris, consisted of the open-air departments devoted to the purposes of teaching; wherein there was an indifferent collection of hardy herbaceous plants, trees, and shrubs, with some puerile contrivances to aid the student of agriculture: the plants in the houses (such as they were) were badly cultivated, few in number for such a place, and unworthy the reputation the garden had acquired. Subsequently, many other houses were erected, and the establishment was considered "progressing to a better state."

In England, the Royal Gardens at Kew may be mentioned, wherein of late years, from the liberal management introduced under the able direction of Sir Wm. Hooker, the collection of plants has become as accessible as could be desired.

The London Horticultural Society, the Botanic Gardens at Edinburgh, Liverpool, Cambridge, Oxford, Birmingham, Leeds, Manchester, &c., all have their merits—all diffuse a knowledge of existing plants; but they are not seminaries where a scientific education can be obtained. Then as to all other horticultural societies, there is no difficulty in determining how far they exert an influence favorable to the science of gardening—*they* stimulate emulation, rivalry, the growth of fine specimens, and anxiety to win a medal or a pecuniary prize; *but what do they teach?* The question is significant, and must be submitted to reflection.

What we desire to see, is some decidedly comprehensive undertaking, wherein every material, every thing that can be rendered available to the instruction of youth devoted to the profession, shall be collected, and maintained, either directly by the government or by the united efforts of zealous and affluent individuals, constituting themselves an influential body, (chartered of course,) and subscribing to funds to purchase a large breadth of land, whereon all the operations of horticulture shall be performed by the students in the open-air departments, and in every variety of glazed or defensive erections, under the supervision of directors qualified to undertake, note down, and record every observable fact and traceable cause. This system would imply courses of lectures on soils, water, moisture, vapor, fermentation, gases; their extrication, mutual attraction, combination, and results; air, light, heat, electricity, galvanism, magnetism. All these, constituting as they do the class of great natural agents, are employed by nature, and in full activity. In its most comprehensive sense, botany would form a very important feature; so would the natural history, climate, introduction of every known plant, and the best method of culture, subject to discovery and improvement. We only suggest, but that any *efficient* steps will be taken, we hardly dare to hope: in the mean time it may not be unprofitable to allude, to a greater or less extent, to each of the subjects mentioned—not with any expectation of doing it justice, or of being able to elucidate satisfactorily the phenomena which, at present, we can only contemplate, yet inquiry and admiration may be thus excited, attention may be roused, and others may be stimulated to do that more effectually, which is herein only attempted.

Thus far an imperfect prospectus only has been ventured on, introductory to a series of short articles which will follow in sucession as far as time will permit. General gardening, although mentioned at the commencement, can not be noticed so far as vegetables are concerned. The subject is one which differs widely from science, and stands alone; but as the flower-garden,

parterre, shrubberies, and lawn, are each and all dependent upon *soil*, *water*, and *air*, these great agents must be alluded to; and therefore the investigation of earth will include the operation of manures. To this extent then, the staple of the garden will be submitted to analysis; for unless these subjects be inquired into, no means of comparison of facts can be attained.

Thus much in explanation; it is hoped that our future articles will neither appear irrelevant nor prove uninteresting. The reader will bear in mind, that for his benefit we place before him that which he would perhaps never see but for our instrumentality. Some of the excellent ideas on this subject, with which English horticulture has been enriched by Mr. PAXTON—the manager of the DUKE OF DEVONSHIRE'S immense horticultural establishment, must be made to penetrate our atmosphere, and illumine our understandings upon the *science* of gardening.

WM. W. VALK, M. D.

Flushing, L. I. April 7, 1847.

THE CHINESE MAGNOLIAS.

NATURE has bestowed that superb genus of trees, the *Magnolia*, on the eastern sides of the two great continents—North America and Asia. The United States gives us eight of all the known species, and China and Japan four or five. Neither Europe, Africa nor South America afford a single indigenous species of Magnolia.

All the Chinese Magnolias, excepting one, (*M. fuscata*,) are hardy in this latitude, and are certainly among the most striking and ornamental objects in our pleasure grounds and shrubberies in the spring. Indeed, during the month of April, and the early part of May, two of them, the White, or *Conspicua*, and Soulange's Purple, or *Soulangiana*, eclipse every other floral object, whether tree or shrub, that the garden contains. Their numerous branches, thickly studded with large flowers, most classically shaped, with thick kid-like petals, and rich spicy odor, wear an aspect of great novelty and beauty among the smaller blossoms of the more common trees and shrubs that blossom at that early time, and really fill the beholder with delight.

The Chinese White Magnolia (*M. Conspicua*,) is, in the effect of its blossoms, the most charming of all Magnolias. The flowers, in color a pure creamy white, are produced in such abundance, that the tree, when pretty large, may be seen a great distance. The Chinese name, GULAN, literally *lily-tree*, is an apt and expressive one, as the blossoms are not much unlike those of the white lily in size and shape, when fully expanded. Among the Chinese poets, they are considered the emblem of candor and beauty.

The engraving (fig. 114) is a very correct portrait of a fine specimen of this tree, standing on the lawn in front of our house, as it appears now, April 25th. Its usual period of blooming here is from the 5th to the 15th of this month. Last year there were *three thousand blossoms* open upon it at once. The tree has been planted about 14 years, and is now 20 feet high. The branches spread over a space of fifteen feet in diameter, and the stem, near the ground, is 8 inches in diameter. Its growth is highly symmetrical. For the last ten years it has never, in a single season, failed to produce a fine display of blossoms, which are

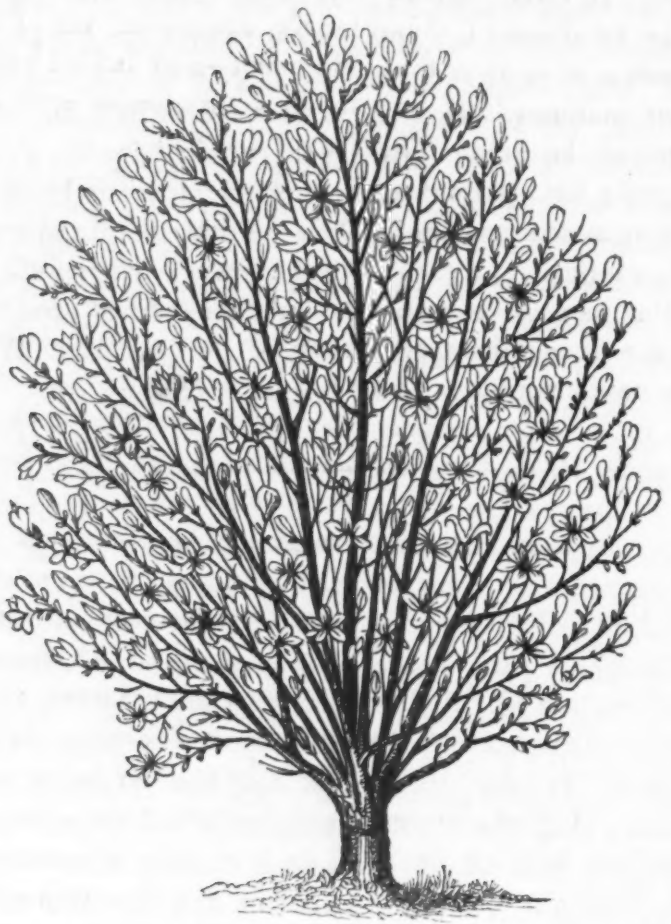

Fig. 114. *Portrait of the Chinese White Magnolia in Mr. Downing's grounds.*

usually followed by a few seeds. Last year, however, it gave us quite a crop of large and fine seeds from which we hope to raise many plants.*

This tree is perfectly hardy in this latitude, and we have never known one of its flower buds, (which are quite large in autumn,) or an inch of its wood, to be killed by the most severe winter. It is, however, grafted about a foot from the ground, on a stock of our Western Magnolia—sometimes called in Ohio the "Cucumber tree," (*M. acuminata.*) This perhaps renders it a little more hardy, and rather more vigorous than when grown on its own root—as this native sort is the very best stock for all the Chinese sorts. It is so propagated by budding in August; and no doubt the *spring budding* recommended by Mr. NELSON in this number, would be a highly successful mode.

The next most ornamental Chinese Magnolia, is Soulange's Purple, (Magnolia *Soulangiana.*) This is a hybrid seedling raised by the late Chevalier Soulange Bodin, the distinguished French horticulturist. The habit of the tree is closely similar to that of the *Conspicua;* its blossoms, equally numerous, are rather larger, but the outside of the petals is finely tinged with purple. It partakes of the character of both its parents —having the growth of *Magnolia conspicua*

* There is, we learn, a fine large specimen of this tree in he garden of Mr. William Davidson, Brooklyn, N. Y.

and the colour of *M. purpurea*, (or indeed a lighter shade of purple.) Its term of blooming is also mid-way between that of these two species, being about a week later than that of the white or *Gulan* Magnolia. It is also perfectly hardy in this latitude. The Purple Chinese Magnolia (*M. purpurea*,) is a much dwarfer tree than the two preceding species. Indeed, it is properly a shrub, some six to eight feet in its growth in this latitude. Grafted on the "cucumber tree," it would no doubt be more vigorous, and perhaps more hardy, for it is occasionally liable to have the ends of its branches slightly injured by severe winters here. Its flowers begin to open early in May, and on an old plant they continue blooming for six weeks, and indeed in a shaded situation, often for a considerable part of the summer. These blossoms are white within, of a fine dark lilac or purple on the outside, and quite fragrant like the others. This is the oldest Chinese Magnolia known here, having been brought from China to Europe in 1790—and it is now quite frequently seen in our gardens.

There is another species, (*M. gracilis*,) the Slender-growing Magnolia, which very nearly resembles the Purple Flowering Magnolia—and indeed only differs from it in its more slender growth, and narrower leaves and petals.

If these noble flowering trees have a defect, it is one which is inseparable from the early period at which they bloom, viz., that of having few or no leaves when the blossoms are in their full perfection. To remedy this, a very obvious mode is to plant them with *evergreen* trees, so that the latter may form a dark green back ground for the large and beautiful masses of Magnolia flowers. The American Arbor Vitæ, and Hemlock, seem to us best fitted for this purpose. To those of our readers who do not already possess the Chinese Magnolia, and more especially the two first named sorts, it it is impossible to recommend two trees, that may now be had at most of our large nurseries, which are in every respect so ornamental in their symmetrical growth, rich blossoms and fine summer foliage, as the Chinese Magnolias.

NOTES ON THE VALLEY OF LAKE CHAMPLAIN.

BY CHAUNCEY GOODRICH, BURLINGTON, VT.

Lake Champlain extends from Whitehall (Skeensborough of olden time,) lat. 43° 23′, to St. Johns, in Canada, lat. 45° 18′. Its elevation is about 100 feet above tide water, and its width, for about 50 miles from its southern and northern extremities, averages about two miles, and its central part about five miles. Its greatest width is opposite Burlington, Vt., where it is nearly ten miles. It is less liable to storms than any other of the American lakes, and its navigation is so safe that marine insurance is unknown on its waters. Its basin may average, south about 20 miles, east about 50 miles, and west about 40 miles; bounded east by the Green mountain chain dividing its waters from the river Connecticut, and west by the Adirondack chain of mountains, dividing it from the rivers Hudson and St. Lawrence. On the east side, a rolling surface extends about 20 miles to the base of the mountain range, until it enters Canada, lat. 45°. On the west side, the surface is very broken. There are some fine farming

towns on its banks, while in many places, the mountain range extends quite to its shores, presenting a varied and picturesque appearance, for one-half its length, when it ceases, and the land between the lake and river St. Lawrence is level—and to the outlet of Lake Ontario, rolling.

The prevailing rock on the east side is black slate, sand and limestone. On the west side, gneiss and other primary rocks, hypersthene, sand and limestone, while in many places the immense mountains and beds of iron ore (compared with which the iron mountains in Missouri are insignificant) extend quite to its shores, and great quantities of black or iron sand are thrown on its beach, which is collected in casks and sent to New-York in quantities to supply all demands for it.

This valley contains every variety of soil, from stiff clay to a sandy plain. On the eastern or Vermont side, to the base of the mountain range, a gravelly or clayey loam predominates. There is some sandy and some clayey portions—with a large amount of intervale or bottom lands. Springs and small streams are very abundant, and for agricultural purposes it is the best tract of land, of like extent, in N. England. On the west side, where unbroken, the soil is much like the east, but the streams are generally rapid, with steep banks, while there are some exceptions, and a few valuable tracts of intervale or bottom lands.

Climate.—The average mean temperature, for the last nine years, has been for

January, ..	20° 4′	July, ...	69° 2′
February, .	20° 2′	August, ...	69°
March, ...	30° 3′	September,	60° 1′
April, ...	44° 4′	October, ..	47° 2′
May, ...	54° 7′	November, .	35° 2′
June, ...	64° 9′	December, .	22° 8′
	44° 10′		

Greatest heat, July, 1841, and August, 1845 and 1846, ... 96°
Greatest cold, January 28, 1844, ...—24°
Greatest range, ... 120°
Average annual range, ... 110°

The thermometer rarely falls to —20°; —12° was the lowest, in the winters of 1845 and 1846, and —14° the past winter. The lake opposite Burlington is sometimes open during the winter, but is usually closed about the last week in January, or first week in February, and the time of opening averages about 10th April.

Rain and Snow.—Average quantity of rain for the last nine years:

	Inches.		Inches.
January, ...	1.81	July, ...	4.30
February, ..	1.71	August, ...	2.15
March, ...	2.21	September, ..	3.21
April, ...	2.12	October, ...	.79
May, ...	2.96	November, ..	2.49
June, ...	3.63	December, ..	2.19
		Average, ...	29.57

Least quantity of rain, 27.58 inches—1844.
Greatest quantity of rain, 37.28 inches—1840.

The average quantity of snow has been 72 inches. The time for "good sleighing" averages about two months. In the winter of 1845 and 1846, snow came on the first day of December and remained for so long as to give us uninterrupted sleighing 103 days, unknown before to that respectable old gentleman, the "oldest inhabitant."

Average time of appearing of	robins,	March 22.
" " "	sparrows,	" 25.
" " "	swallows,	April 27.
Average time of	currants in full bloom,	May 7.
" "	plum and cherry "	" 14.
" "	apple "	" *22.

For the foregoing extracts from tables, I

* [We find, on examining our record of the progress of the spring for the last ten years, that in Newburgh the average time of the blossoming of currants is April 14,
" " cherry and plum, " 20,
" " apple " 28,
which makes the *opening* of the season nearly a month earlier here than at Burlington.—Ed.]

am indebted to the Rev. Z. THOMPSON, whose Natural, Civil and Statistical History of the State justly places him at the head of STATE historians. The observations were made at his residence, one mile from, and 256 feet above the lake, near the University of Vermont, at Burlington.

We plant seeds in hot beds from 1st to 10th April; peas, onions, beets, &c. from 20th April to 1st May; melons, cucumbers, &c., in boxes covered with glass, at same time; annual flower seeds 10th to 20th May; winter vegetables generally 20th May to 1st June. Early peas are picked about 20th June; green corn the last week in July; French reinette or early harvest apples commence ripening 1st August.

By this it may be seen that our climate is more uniform, and not as cold as most places in the same latitude. I have no means at hand for making a comparison with Albany, but think the range of the thermometer is there greater, and that more snow falls in Albany than in this valley. We rarely suffer from spring frosts, and but once in more than 20 years (May 15, 1834) have currants been injured by it. *Severe* drouth is never known, and in the northern part of the valley, after passing the Adirondack chain of mountains, the farmer is sure of good crops of grass with little or no injury from dry weather.

All the native grapes of New-England flourish—require no protection in winter, and ripen well. The Isabella and White Sweet-water grapes require slight protection, but generally ripen. The Catawba requires no protection, but seldom ripens well without the aid of glass. Antwerp raspberries require no protection, and the shoots are never "winter-killed." Good peaches are sometimes grown, but they are too uncertain to be worth cultivating, except on walls. Little attention has been given to quinces: some are now growing with fair prospect of success. Cherries and plums grow in great perfection; our only enemies to them are the curculio, birds and boys. Most of the first settlers planted seedling pear trees, about 60 years since, which are uniformly vigorous and healthy, and some valuable varieties have been produced. New varieties from abroad have not been sufficiently tested to speak of them, except in general terms. The *White Doyenné* (St. Michaels,) *Seckel*, *Dearborn's Seedling*, *Bartlett*, *St. Germain*, and many others grow *in great perfection*, and most others in course of cultivation promise well.

In no part of the world are better apples produced, than in this valley. They are greatly superior to those grown near the sea-coast, for high flavor and tenderness. Bostonians, resident here, give them a decided preference to any grown in that vicinity, and when a Bostonian acknowledges any thing *equal* to what he finds in the "City of Notions," it is greater praise than for a genuine John Bull to acknowledge any thing good out of Old England.

Most of the old varieties cultivated in New-England, and many others, are common here; also, many valuable native sorts. That *coquettish* apple, the *Newtown Pippin*, in some situations grows well, good size, fair and perfect, while in others it is spotted and inferior. As a whole it is not as profitable for general cultivation as apples that are natives of New-England, Canada or Europe.

No part of the United States has a more healthy climate. At the University of Vermont, at Burlington, there has been but one death among the students since I have been a resident of Burlington, (20 years,) and that of a contagious disease, in the spring of 1842. The average number of students is 100.

The extreme remoteness and supposed rusticity of our mountain State, has passed into a proverb among story-writers, and when the most uncouth specimen of humanity their imaginations can draw, is described, he is always represented as from Vermont, or, to use a stereotyped phrase in Boston and New-York police reports, "a greenhorn from Vermont;" and a few years since I was asked by a pious old lady in Hartford, Ct., "are the people in Vermont much civilized yet?" her object being to ascertain if missionaries could be safely sent among us. But, on the shores of Lake Champlain, with our daily and nightly lines of steam-boats, connecting New-York and Europe with Queen Victoria's provinces, our steam, ferry and tow-boats, our 200 sloops, lake and canal boats, connected with the river Hudson by a canal, with the St. Lawrence by a canal and railroad—two railroads in progress for Boston, one for Saratoga, one for Ogdensburgh, connecting us with Lake Ontario, and a fifth for New-York; we think we shall soon, by increased intercourse with our more "civilized" neighbors, be enabled to exchange a few of our "greenhorns," and no longer be "out of the world," though we may be "in Vermont."

CHAUNCEY GOODRICH.

Burlington, Vt. April, 1847.

A VISIT TO THE GREEN-HOUSE OF MARSHALL P. WILDER, ESQ.,

PRESIDENT OF THE MASS. HORTICULTURAL SOCIETY, HAWTHORN GROVE, DORCHESTER.

BY JOSEPH BRECK, BOSTON.

THERE is not, perhaps, another person in the country, who has a greater passion for rare and beautiful plants, or who has done more for horticulture than Mr. WILDER, certainly not in New England. There is scarcely a tree or plant of any description, that is reputed to have any claim to beauty or usefulness, which has been heard of as existing in any part of Europe or America, but it is sure to find its way into this gentleman's collection, cost what it may. It has always afforded us much pleasure to visit this green-house, for something new and rare is always displayed, and then there are many new things, just imported, in various stages of progress, giving the pleasing anticipation of successive exhibitions of something interesting and magnificent. It sometimes seems as if Madame Flora would soon outdo herself, or be eclipsed by her own productions, so fast are improved varieties multiplied. What is considered the *ne plus ultra* one year, is perhaps discarded, or thrown completely into the shade, the next season, by a new and superior rival. It is really amusing to look back a few years, and call to mind the varieties that, in their day, have been the theme of admiration, and upon which were bestowed the most superlative terms, but are now neglected and forgotten. The present visit was designed principally for the purpose of examining the splendid collection of *Camellias* and *Azaleas*, now in full bloom, and at the same time to look at other curiosities.

The green-house is divided into three apartments. As the visitor enters into the first division of the house, his eye rests upon a superb collection of Chinese Azaleas, finely grouped upon the stage so as to show

to great advantage the numerous varieties, with their rich tints of orange, scarlet, pink, purple, violet and pure white. The plants are large, well grown, and profusely covered with bloom. The varieties which particularly attracted our attention, were *A. speciosa*, *rosea*, *superba*, *violacea*, *neriflora*, *aurantia superba*, "the finest orange scarlet, the pride of the Frankfort Seedling," a very beautiful variety; *Copeii*, *&c.* Additions have recently been made to the collection, by an importation from Germany, via England, which were received in good order. Some of them are now showing bloom; of these, we noticed *Azalea exquisita*, resembling *A. variegata*, but larger and a more profuse bloomer; *A. optima*, "dark scarlet, the best of this colour;" *A. Prince Albert*, scarlet, and *A. alba insignis*, "the largest and best formed white."

In this apartment we noticed several varieties of the new *Tree Pœonies*, of which Mr. W. gave the description from his invoice, viz: *Elizabetha*, described as "dark carmine, 9 inches in diameter, full and of regular form;" *Van Houtii*, "of a darker colour than the former;" *Karl V*, "large white, very double and round;" *Rococco*, "dark purple, full and fine form;" *Triomphe de Malines*, "of a beautiful amaranth colour, shaded with rose, of the most perfect form, an enormous, large, high formed flower." If these varieties equal the description, they must even surpass the magnificent flowers exhibited by Mr. W. at the Society's rooms, in the summer of 1845, embracing 15 varieties, and over 100 blooms. In this room, there was a great number of Gladioli, including an invoice of 59 varieties. As we enter the second apartment, we have an extended and brilliant view of this unrivalled collection of Camellias, consisting of more than 2000 plants, the back range of which is principally composed of very large plants of the Double White, some of them 10 to 12 feet high. One of the most striking varieties is *Donkelaarii*, with large semi-double scarlet crimson flowers, spotted with white; *Duchesse d'Orleans*, white, striped with rose, of regular fine form; *Teutonia*, a very remarkable variety. This variety received a special premium at the great show in Ghent, and was from thence carried to Vienna, where it also received another of like value; its singularity consists in its having, at the same time, flowers of pure white, and rose colour, spotted and striped with white. Here, on one plant, we saw white flowers marked with rose, and others deep rose colour; on another plant they were quite different, being of a deep flesh colour, distinctly ranged through the petals with violet veins; the flower, a very perfect shape, and considering its sportive character, is truly a desirable variety. One of the most remarkable varieties in the collection, and one on which the eye first rests, is *Floyii*. Mr. W. owns the old mother or original plant, raised by Mr. Floy, which was purchased many years since at an extravagant price; it is truly a giant among the Camellias, and is without a parallel as it regards its robust habits. The foliage is most luxuriant and rich; the branches were bending under the weight of its profuse bloom; the buds very large and perfect shape; the flowers of large size, deep rose colour, profusely spotted with white; its magnificence on the stage cannot be exceeded, but the flowers are too large for bouquets, &c. *Eclipse* is a favorite with us; flowers red on white ground, and perfectly carnation striped. *Punctata;* the ground of this flower is flesh colour, beautifully spotted and striped with red. *Chandlerii*, is a fine old variety, with deep crimson flowers, blotched with white, the

flowers often varying very much as to the proportions of white and red. *William the IV*, fine regular form, rose ground, spotted with white. *Henry Favre*, perfect form, rose colour; *Sarah Frost* and *Hempsteadii*, both Philadelphia seedlings and fine regular flowers; *Cruciata*, pink, with white stripes; *Imbricata*, *Binneyii*, *Colvillii*, *Conspicua*, *Fordii*, *Francofortensis*, *Gunnel's Gen. Washington*; *Americana*, blush, with rose stripes and spots; *Floy's Neoboracensis*, a very large, bold flower, after the style of *Donkelaurii*, slightly striped with white; *Celestina*; *Tricolor*, beautifully striped like a carnation; *Pictoreum Roseum*; *Myrtifolia*, with numerous other varieties, were in a flowering state. The quantity of *seedlings*, in various stages of growth, is very great, and would number by thousands. These are mostly from seeds of flowers which had been crossed by superior varieties; we noticed the plants were labeled with the name of the parents from whence they sprung. Quite a number of these seedlings have shown flower the present winter, some of them of good character, but none to be compared with the magnificent varieties, C. WILDERII, and Mrs. ABBY WILDER, for which the Massachusetts Society awarded to Mr. W. a silver pitcher. By the way we noticed a flower of C. Mrs. WILDER, at Mr. Warren's store, (the present owner of the whole stock,) a few days since, which fully sustained the high character already given of it; it is undoubtedly the best white variety in existence, so perfect in shape, petals perfectly rose leaved, and the flower full and symmetrically formed; the tints of pink in it are very delicate, in some flowers hardly perceptible. We doubt whether Mr. WILDER will find among his thousands of seedlings, two more varieties that will excel or even equal these.

On the back of the Camellia house, and rising to the top of the wall, we noticed a superb plant of *Acacia spectabilis*, covering a space of 12 to 15 feet, completely, with its rich, golden yellow, ball-shaped flowers; we were informed that it had been two months in bloom.

Passing from the Camellia house into the third division, our attention was arrested by some large plants of *Cloth of Gold* and *Solfaterre* Roses, climbing up the rafter and over the house to the length of 15 to 20 feet, enriched with their clusters of yellow canary coloured flowers. These varieties, particularly Cloth of Gold, are said to be shy bloomers, but with proper treatment, Mr. WILDER says, they are free and constant. Most of the Noisettes, he informs us, should have plenty of room to ramble, where they will form flower spurs and continue to produce bloom, and that the knife should be used but sparingly on this class. This house is partly devoted to roses, which are all in fine condition, making robust shoots under the influence of Guano water. Among the new varieties, we noticed *Princess Adelaide*, (Tea,) with very large pale yellow, highly scented flowers; *Eliza Savage*, a large, splendid Tea rose; *Count de Paris*, (Tea;) *Souvenir de la Malmaison*, (Bourbon;) *Bourbon*, *Leveson Gower*, *Cezarine Souchet*, *Triomphe de la Duchesse*, *Le florifera*, *Hybrid Perpetuals*, *Commandant Fournier*, *Eugene Sue*, *Comte de Montalivet*, *Admiral D'Esting*, *Gen. Morangier*, *La Renoncula*. Several of these have been received this year, but are making strong flowering shoots.

In this house there was a large plant of Heliotrope planted in the ground, ten feet high, and four to five feet wide, that had been continually in bloom through the year, and from which bushels of flowers had been cut. There were myriads of young *Calceo-*

larias in the seed pans, from crosses of the splendid varieties exhibited by Mr. WILDER at the horticultural rooms the last season, and great numbers of vigorous plants were potted, many of them decidedly of a shrubby character, a desideratum for this plant, and we anticipate a grand display of beautiful novelties from this great number of seedlings.

There was also a great quantity of seedling Cinerarias, distributed in various parts of the different houses, just coming into bloom, of every tint and hue, some of them very fine. Not to be overlooked, were also seedling Japan Lilies in any quantity, a great proportion of which will show bloom the coming season. These are from crosses of *Lilium speciosum* with other varieties. Should these lilies prove hardy, they will be a great acquisition to the borders. To test their hardiness, Mr. W. has planted out a bed on trial; the probability is, that they will endure the winter with slight protection.

Among the new Fuchsias, the following were named, viz: the *Queen of the Virgins*, *Sir Henry Pottinger*, *Miss Milbank*, *Acantha*, *Miss Prettyman*, *Empress*, *Serratifolia*, *Lady of the Lake*, *&c.* Among other new plants just received, were 25 varieties of *Phlox*, and a dozen or more of *Geraniums*, most of them in a hopeful state. Among other new things, we saw a large plant of *Abutilon venosum*, more robust than *A. striatum*, flowers much larger, of a deep orange and carmine colour. A plant of *Veronica speciosum*, just out of bloom, and a plant of *V. Lindleyi*, a new white variety, were also noticed. We were shown a new Clematis, *C. tubulosa mongolica*, from Caucasus, said to surpass all others of the tribe. Also, another plant, *Pitcairnii altenstenii*, a new plant, said to be very beautiful, of the Bromeliaceous family. Various new sorts of Epaeris were shown us, among them *E. pulchella*, a great beauty, the branches densely clothed with minute umbelliferous white flowers; *E. impressa alba*, with its tube-shaped flowers, spotted with red, and many others. Mr. WILDER has a great quantity of *Seedling Azaleas* in another house, at a little distance from the main house, which we have been describing. Part of these seedlings have already flowered, and some are of the character of *Variegata*, and other well known sorts. Many of them are in bud for the first time, and out of the lot some valuable varieties may be expected. Time would fail us to enumerate half the new and rare plants embraced in this collection. We must leave for further consideration, many things in the greenhouse, but more particularly the plants and trees in the open ground, which will be deferred until the proper season.

JOSEPH BRECK.

Boston, March 13, 1847.

AUTUMN GRAFTING AND SPRING BUDDING.

BY ROBERT NELSON, NEWBURYPORT, MASS.

[THE following interesting article is well worthy of the attention of our readers. MR. NELSON is a practical Danish horticulturist, and the climate of Denmark is so much like that of New-England, and the northern part of our Union, that his experience in some points is more valuable in this country than that of European gardeners from warmer parallels of latitude.

The *autumn-grafting* and *spring-budding*

described, are, we believe, most useful and excellent variations of the modes of propagating trees and shrubs, by no means generally known or practiced in America. N. Longworth, Esq., of Cincinnati, has performed spring-budding with success, and drew the attention of our readers to it, by a brief note, in a previous number (p. 145.) Besides the greater success for certain kinds of trees, which attends the modes of grafting and budding described by Mr. Nelson, they are most valuable to the amateur, or commercial grower, who often receives grafts a little out of season; or who wishes, by spring-budding, to produce half a dozen trees from a scion, which, if used for grafting, would only serve for one or at most two trees.—Ed.]

....

Grafting and budding are so well known that hardly any thing new can be said about them. Nevertheless I hope, in communicating something of the experience of many years, that those less acquainted with these operations will find a few useful hints.

I will omit the common spring grafting on growing trees, and confine my remarks to root-grafting, described by Mr. Phoenix, on page 280 of The Horticulturist. Notwithstanding that root-grafting is, I suppose, as old as propagating plants by pieces of roots, it is not as commonly practiced, as it ought to be.

In the winter of 1835, after having visited the most celebrated gardens on the continent, I returned to my native country, Denmark, 55° north latitude, and for the first time tried root-grafting. I applied this method on apples, pears, plums, cherries, peaches and apricots, with good success; Madeira nuts, filberts and roses would not take to my satisfaction, and black English mulberries would not grow at all; they were all grafted in February, and put into boxes. I thought it however difficult to keep them free from frost in the cellar, unless the latter was so warm as to cause the grafts to shoot. I therefore let the grafted roots freeze in the boxes, as soon as grafted, and placed them in an ice-house, where they remained in that temperature, I may say frozen, till the latter part of April, in very good condition. But there was another and still greater, difficulty now in the way, which was to get them planted sufficiently early in that busy season, when every kind of garden work must be performed; and even if this could be done, the grafts of some trees often require protection against the powerful sun, and suffer much from drouth, before they could strike roots.

Instructions for transplanting the different kinds of plants are given in the works on gardening; but much easier and plainer is it to follow the hints, which Nature herself teaches, and to transplant every kind in its *season of rest*, which is very different, indeed, according to the different kinds, in spring, summer and fall, but *invariably when the plant has ripened its fruit*. At that period all its juices are at rest, and the plant, being in a sleeping state, may easily be treated, as the gardener wishes.

Accordingly, the ensuing *fall*, as soon as the trees dropped their leaves, I began to root-graft the same kinds as before, and planted them directly out in nursery rows, protecting them with dry leaves, covered with pine twigs, in order that the wind should not blow them away. As I wished to keep the ground open for further planting, I also covered some beds in the same manner.

In this way I continued root-grafting and planting, till towards christmas, when the winter set in. Though it was rather a severe winter, and there was but very little

snow, I found my grafts in spring in excellent condition. Even roses, filberts and Madeira nuts had taken readily, but the black English mulberries were lost, and it seems that this kind of fruit would not endure root-grafting, though I *sometimes* succeeded in grafting them on growing stocks of white mulberries in spring.*

As several ornamental shrubs begin to grow so early in spring, as to render it very difficult to root-graft or transplant them at that season, without injuring them, I applied the same method to *Cydonia japonica*, (the Japan Quince,) *Daphne indica*, and others, with very good success, grafting the first on hawthorn and quince roots, the latter on the common Mezereum.

The ensuing fall, 1836, I grafted filberts and Cosford nuts, several roses, including *Rosa cristata*, *Duchesse d'Angoulême*, *Queen of Denmark*, and others, on stems two and three feet high, covering them by tieing straw around them. They endured the winter very well, and some of the roses flowered the first summer. In October following, I procured two plants of the tree *Pæonias*, *arborea* and *papaveracea*. Both having but very poor roots, I was obliged to cut off the tops, and being desirous to save them, I graffed those scions on some bulbs of the common Red Pæony (*P. officinalis*,) planted them in a proper soil, and, at the approach of winter covered them with about three inches of peat. In April I removed the peat, and found the plants all in excellent condition. On the 26th of October last, I grafted six scions of *Pæonia arborea* on common Pæony tubers in the garden at this place, and they now appear very healthy. I have tried *cleft* as well as *whip-grafting*, on roots, with equal success.

In all fall grafting, I tie the grafts very fast, leaving a bud on the scion only a quarter of an inch from its lower end, and on planting out, I place this bud just below the surface. I leave two buds more on the scion, but place the most confidence on the lower bud. I cover the whole wound with melted grafting wax, as also the top of the scion, to keep air and moisture from them. I like spring grafting on growing trees; but as it is desirable to extend the season for propagating as much as possible, I shall greatly prefer, according to my own experience, and for many other reasons, to perform my root-grafting in the autumn.

Budding is so well decribed in your work on the "Fruits and Fruit Trees of America," that nothing valuable could be added to that description. Very little, however, is said of *spring budding*, and I hope, therefore, it may not be amiss, if, in a few words, I give my experience on this method of budding; and why budding should not do as well in May as in August.

Many years ago I met with an account of budding roses in spring, in a German gardening journal (Weissensee Blumenzeitung, if my memory serves me, for 1832) and tried it directly. According to the directions I commenced in March, before the bark would peel, by cutting out buds with a small piece of wood, making a similar cut on the stock, inserting the buds so that the inner bark of bud and stock should exactly correspond, and tying them firmly together. This was more properly *bud-grafting* than real budding; but I continued my experiments till the middle of May, and as soon as the bark would peel, I inserted my buds in the common way.

* That fine fruit, the large black English mulberry, is always a scarce plant, even in England, from the difficulty of propagating it. We have, however, been quite successful by grafting it in the spring, upon pieces of the roots of our common *Red Mulberry* of the woods, (*Morus nigra*,) and planting the roots as soon as grafted, in a hot-bed, made with only half as much stable manure, and consequently bottom heat, as usual.—Ed.

It was somewhat difficult to insert the buds well, as there was no stalk or leaf stem to take hold of. I therefore took a drop of grafting wax on the point of a finger, to which I made bark of the bud, as soon as cut, adhere, and performed the operation very easily. I tied it, as I always do, with two strings of mats, and as the spring winds in my native country are very dry, I covered all, even the bud itself, with grafting wax, put on with a brush, in a melted state. My spring budded roses were growing very rapidly, and some of them were flowering the first summer. I tried it also with great success on *Madeira Nuts*, *Peaches*, *Black English Mulberries*, *Weeping Ashes*, and *Weeping Roses*. They all ripened their wood sufficiently to stand the following winter well. As I gained a year by this method of budding, and in other respects was very well satisfied with it, I have always since that time continued to perform spring budding, as well as fall grafting.

March, 1847. R. NELSON.

A NEW TONIC FOR THE PEAR TREE.

OUR readers have, no doubt, already noticed our frequent allusions of late to the use of *Iron* as a remedy for some of the diseases of the pear tree.

In our last number we gave a translation of the new discovery of M. GRIS of the efficacy of the *sulphate of iron* in restoring the healthy state of the leaves of plants which had become pale, sickly, or *chlorotic*.

Beside this, we have for several years past, frequently observed the apparent good effects of the *oxides of iron* (iron rust) when applied to the roots of the pear tree. Our friend, the late Dr. REED, of Poughkeepsie, N. Y., was the first person whom we knew to make a direct application of oxide of iron to the soil about his pear trees. This he did in the form of blacksmith scoria and cinders. The result was a remarkably healthy growth, fair fruit, and as he believed an exemption from the *fire blight*. He founded his practice (as a correspondent, has already observed) upon the fine productive condition of the pear tree in an iron district with which he was familiar in the Eastern States.

The practice of applying oxides of iron is one which has been ignorantly, but more or less successfully, employed by cultivators, in this country, here and there, for 50 years past. Old rusty pieces of iron were either laid round the trunk of the tree, or hung upon the branches. Its good effect has been attributed, by some, to electrical action, but it is far more probable that it is solely owing to the gradual mingling of the oxide of the old iron with the soil at the roots of the tree.

M. GRIS, in the article we have presented, has given us the details and the result of his experiments with *sulphate of iron*, but we have not seen from him any *rationale*, of the way in which the normal health of the foliage, and thereby the plant, is restored.

In order to understand this, we must glance briefly at the food of plants and the manner in which the nutritive process is carried on.

Carbon and the *elements of water*, constitute by far the largest part of all plants. As the carbon forms the woody fibre, it is evident that the growth and increase of all trees and plants must depend on their ca-

pacity for taking up and digesting this substance.

Now the carbon, which is the food of plants, is not found or taken up by them in a free or simple state, but in the form of *carbonic acid*—that is, *carbon* combined with *oxygen*. This carbonic acid abounds in the air, which is the food of plants taken up by their leaves; and in the water, containing solutions of rich soils, which is taken up by their roots. According to LIEBIG, much the largest portion of the carbonic acid, which forms the food of plants, is absorbed by the surface of the leaves.

But as carbon, and not carbonic acid, is the food of plants, it is evident that the latter must have the power of *decomposing* carbonic acid, so as to leave them in possession of the carbon, and also of expelling the superfluous oxygen.

This admirable power is possessed by the leaves of plants in a manner somewhat analagous to that belonging to the lungs of animals. Carbonic acid, in the form of gas, is absorbed by the green leaves of a growing plant, and is exposed by them to the action of the sun's light; and the oxygen is then, by the force of the vital power, separated from the carbonic acid, and given out by the leaves, while the carbon which remains enters into the system of the tree or plants, and immediately increases its bulk.

Upon the rapidity with which this decomposition or digestion of carbonic acid goes on, must, of course, depend the vigor and growth of the tree. It is not only necessary to its action that the leaves of plants should be exposed to the light, but that they should be green. Plants grown in the dark are always not only comparatively feeble, and destitute of strength and substance, but they are also *colourless*. This is owing to the deficiency in carbon, from the want of the sun's light to assist in separating it from the carbonic acid which they absorb.

A diseased or sickly state of plants, also immediately arises, if, from any cause, the leaves lose their *green colour*—for with the green colour is lost, in a great measure, the power of digesting their food, that is, separating the carbon from the oxygen.

Now the sulphate of iron used by M. GRIS, and the oxides of iron which we recommend for the pear, both, we conceive, act as a specific in restoring the natural green colour and consequent healthy action of the leaves of plants.

The bad health of many plants, with yellow chlorotic foliage, we conceive, arises from the irretention of an *excess of oxygen*—or from their not being able to expel the oxygen and assimilate the carbon of carbonic acid in a natural manner.

M. GRIS has proved that the salts of iron, applied to the surface of sickly yellow leaves, very speedily restores their green colour, and with it the health of the plant. The same result follows, in a less rapid manner, the absorption of the solutions of the salts of iron by the roots.

We believe, from our own observations, that the same effect is produced on the diseased foliage of the pear (and probably other fruit trees) by the application of common iron rust, or oxide of iron in small quantities. Whether the *peroxide of iron* acts by entering into combination with the excess of oxygen in pale and sickly foliage, or otherwise specifically upon the vital power of the plant itself, we are not yet able to say. The subject has not been noticed by chemists. BARON LIEBIG only says, "There are inorganic substances, the total want of which, in animals, is inevitably productive of death. Plants, for the same reason, cannot live unless supplied with certain metallic compounds." But though oxide of iron

enters into the composition of a large number of plants, chemists have not yet told us precisely what office it performs.

But since *peroxide of iron* forms a considerable part—from 3 to 8 per cent—of nearly all good soils, and since it is one of the constituents of plants, it is evidently necessary to their growth. We imagine it to exert a direct influence on the healthy condition and action of their green leaves. It is evident, therefore, that if a soil becomes exhausted of it, or if it is naturally deficient in quantity, certain kinds of vegetation will fail there, or succeed but imperfectly.

Now the most serious obstacle to the cultivation of the pear on the sea-coast, and perhaps in certain soils in the interior, is a kind of crack or blight, which affects the fruit when half or two-thirds grown. The green skin becomes rusty and discolored, the fruit ceases to enlarge, the skin cracks open, and is from that time worthless. At the same time, or, as we have remarked, often a little previously to this—the foliage is also discolored with numerous russetty or black spots—and the leaves become pale green and rather thin in texture—in other words, quite different from the thick deep green foliage of a vigorous tree. They usually drop from the tree, likewise, long before the usual season.

It is not difficult to see that this is in consequence of a chlorotic or unhealthy state in the cuticle of the leaf—which, having lost its normal green colour, is no longer able to obtain the requisite amount of carbon or nutritive food by the usual process of decomposing carbonic acid. The same thing is true of the fruit—the skin of which, so long as it remains green, acts in precisely the same way as the surface of the leaves.

To restore the health of pear trees blighted in this manner, it is necessary to restore the healthy condition of the leaves. It is evident from trial that the common manures will not effect this, since these trees often stand in gardens where the soil is annually enriched. It is also evident that they have exhausted something which the soil once contained—for these same trees, or the same varieties, once bore beautiful fruit and healthy leaves in the same ground.*

We are inclined to hope that *iron*, in some of its forms, may prove to be the substance in which those soils have become deficient; and that its judicious application may again restore apparently decaying varieties to sound health.

We therefore solicit the attention of our readers to the directions of M. Gris, on p. 471 of this journal, for the proportions of the solution of sulphate of iron, so successfully used by him, and we beg them to make careful and repeated experiments with oxide of iron.

Perhaps the best form in which the latter can readily be had, is in the sweepings and cinders of the blacksmiths' shops,† and the rust of old iron. As yet it is difficult to say precisely what quantities should be used. It must be remembered, however, that as oxide of iron forms only a very small part of the composition of plants, it must be very *sparingly used.* We have seen half a peck of the blacksmith scoria, (which it must be remembered is in a good part composed of other matters,) applied to a full sized bearing pear tree with good effect. Three or

* Cultivators have conjectured that these varieties were themselves "run out" or exhausted, and have abandoned them for others. Any more vigorous sorts capable of making healthier foliage, will undoubtedly succeed in such soils where those of only ordinary vigor will fail. But it can not be denied that some of the newest pears have also lately been seen cracked and blighted in long cultivated soils on the sea coast.

† There are, chemically speaking, two oxides of iron—*peroxide* and *protoxide*. The colour of the former is blackish blue, of the latter, red. The *scales* driven off red hot iron under the anvil, are composed of peroxide and protoxide of iron. Iron rust is chiefly peroxide of iron.

four handsful of iron rust, scattered over the surface of the soil, would, we should think, be a sufficient quantity for a full grown *chlorotic* pear tree. A heap of old iron might, if more convenient, be laid about the stem, as the rust would then find its way very gradually into the soil. But the most satisfactory mode, is to water the soil with solutions of iron water—made at first very weak, and increased in strength as may be indicated by the effects produced.

There are also certain soils, in some parts of the country, otherwise highly fertile, in which several sorts of apples are affected by a disease called the *bitter-rot*. We have little personal acquaintance with this malady, but if we understand it rightly, it arises from an unhealthy state of the skin of the fruit, and perhaps it may be prevented by the tonic that we have already pointed out.*

NOTES ON PEAR TREE BLIGHT AND RETARDING PEACH BLOSSOMS.

BY WM. ANDREWS, PENFIELD, OHIO.

Sir—What is commonly known as the *Fire Blight*, in the pear tree, is a subject of much interest at the present time, and has been the parent of many speculations, but I think it is not yet perfectly understood. I have no doubt that your theory of "Frozen Sap Blight," is, in many respects, true; yet, I can not believe that the most sagacious observer, can always predict with certainty, a season of blight, for the reason that the disease, in its progress, does not demand a late growth of unripened wood, as a *sine qua non*. Trees, which have a late autumnal growth of unripened wood, will almost uniformly suffer more or less from the severe frosts of winter. Peach trees will often be killed to the ground. That is sometimes the case with the finer kinds of cherry trees, in our nurseries, as well as with pears, and is particularly and almost uniformly the case with *Catalpas*, when grown upon rich ground and left to nature. It becomes important then to ascertain whether there are any preventives of this late growth of wood, and if so, what they are. Planting trees upon dry soil, as you suggest, I consider as the most important. Indeed it is all-important for peach trees. „Laying bare the roots" of our trees may answer the purpose, but I have a more simple remedy, which for two years past has proved effectual, when applied to the Catalpa. For two or three successive years, I had nearly all my Catalpas killed to the ground by the winter. In the summer of 1845, I determined, if possible, to save them, and about the 20th of August, while they were growing vigorously, I clippied off with my knife the ends of all the branches of the trees, to prevent their going higher. In the course of a week, the leaves had evidently changed their colour to a darker hue, the colour of the trunk and branches soon changed, and the wood ripened perfectly, so as to receive no injury from the succeeding winter. In August, 1846, I found that many of my trees had ripened their wood well, but such as were growing I clipped in

* A very remarkable exception to the usual want of natural congeniality to the pear tree, in sea side soils, occurs, as we find, in some of the gardens of Plymouth, Mass. On learning, last autumn, with some surprise, the great perfection to which this fruit attains there, we applied to Mr. Washburn, one of the most successful growers there, for a sample of his soil. On having it analyzed, by a distinguished chemist, we find that this soil differs from other fertile soils chiefly in containing a much larger proportion of oxide of iron.

the manner before described, and the consequence is, that they are now sound and uninjured. I know not why the same treatment should not cause pear trees, as well as others, to mature their wood perfectly, but have had little opportunity to prove it. I tried it in one instance, upon a cherry tree, with success. But I have suffered much from a blight, which was not the consequence of a late autumnal growth of wood. The spring and summer of 1845, were, in this vicinity, exceedingly dry. Most of my young pear trees lost their leaves about the first of August. Some time in September we had slight showers, which caused them to put forth new leaves, but the dry weather returning, these were soon scorched and withered, without any of them attaining their usual size. The winter found my trees in a starving, enfeebled condition. I lost the *tops* of most of my engrafted trees, and some of the stocks. The Bartlet, Easter Beurre, Beurre d'Aremberg, and Passe Colmar suffered much, while the Winter Neles escaped unharmed. In February, I discovered the blight upon some of the young trees, the whole tops of which were turning black; "black patches of shrivelled bark" were to be seen upon others, but I did not know the full extent of the evil till the coming spring. I cut scions from many of the trees, which afterwards proved blighted and worthless. The blight was not confined to my pear trees. I lost many fine plum trees, of two and three years' growth from the bud. That this disease was occasioned by the freezing and thawing of the sap appears probable, but it was clearly not referable to a late growth of unripened wood, as a primary cause. The coat of whitewash you advise, is the most hopeful remedy which occurs to me for this kind of blight.

Since writing the above I have been examining the trees in my nursery, with reference to this subject. I find some cases of blight among my pear trees, confined to trees of feeble growth, but among the plum trees I can count hundreds which have been killed, or much injured during the last winter. The plum trees cast their leaves early in August last year, much earlier than ever before, in consequence, as we supposed, of the protracted drouth, the summer having been with us, like the preceding one, extremely dry. Few of these trees had *any* autumnal growth.

Is it not possible that the scorching rays of the sun of the last August and September, poured for six or eight successive weeks upon the naked, unprotected trunks and branches of these trees, may have been, at least, the predisposing cause of the malady with which they are affected?

Permit me here to say, that I have had much faith in the perfection of your theory of Fire Blight, and have supposed that it contained a solution of the whole mystery. I had supposed that (the Insect Blight excepted) unripened wood was absolutely necessary to its existence, and had flattered myself that we should soon have the disease under our control. You may then easily imagine that the truth, deduced from facts which had come under my observation during the last two years, was unwelcome; but unwelcome as it was, and is, it is not too strongly stated, when I say that where I have lost, *by blight*, *one* tree which had a late autumnal growth of wood, I have lost *ten* others which had no autumnal growth, but which ripened their wood and lost their leaves earlier than is desirable.

I have extended my remarks upon blight much farther than I at first intended. I wish to say a few words upon the preservation of the blossom buds of peach trees from destruction during the winter. I have, in an adjoining township, remarked for severa

years, two peach trees to be heavily laden with fruit, when the blossom buds upon the trees in all the surrounding country had been killed by frost. These two had no advantage of soil over others, and none of location, except that they stood on the north side of a board fence, which was about four feet and a half high. The owner informed me that he had been in the habit of throwing around them chips or "*swingling tow*," while the ground was frozon, to retain the frost there. A highly intelligent gentleman informed me that he had practiced, for years, heaping snow around his trees, without deriving the least benefit from it, and he thought the practice was rather injurious to the trees. Relying upon his testimony, I have concluded that the fence is more to be depended on for protection than any temporary covering of the roots, especially as the fruit buds are sometimes so far developed in the autumn as to be killed by the first severe frosts of winter. The partial shelter from the rays of the sun afforded by a high, close board fence, during the autumn, the thaws of winter and of early spring, to the trunks and branches, as well as the roots of the trees, will, I think, often prove a sufficient protection. If the bark of the peach tree will bear the *whitewash*, which you recommend for pears, I think it is worthy of a trial. I am sir, very respectfully yours.

WM. ANDREWS.

Penfield, Loraine Co. O., March 26, 1847.

REMARKS.—MR. ANDREWS' communication is an interesting one, because it presents *facts* for consideration.

We are inclined to the opinion that the mortality among the trees described by him is not properly any form of the disease known to cultivators as the pear tree *blight*. We think, from the description, it is the effect of mere starvation—the supply of food and moisture being absolutely cut off, in the height of the growing season, by the extreme drouth alluded. There is no more certain way of destroying the life of a tree, than that of destroying all its leaves in midsummer—especially if this is continued by taking off the second growth of foliage as soon as it appears—and this was precisely the effect of the dry summer in MR. ANDREWS' soil and situation. We saw the same effect in this neighborhood, in 1843, on a large plat of young pear trees on a dry subsoil. They lost their leaves, were greatly enfeebled, many died, partially, before winter, and others, from their debility, were destroyed by the succeeding winter—the latter effect, perhaps, being aided by the crude juices remaining in the tree, the leaves not being in a state duly to elaborate them.

The hints on retarding the peach tree we commend to the attention of those in the interior, who suffer from the effects of spring frosts on the blossoms of this fine fruit.—ED.

REVIEW.

THE JOURNAL OF THE HORTICULTURAL SOCIETY OF LONDON. Vol. I, Parts III and IV; Vol. II, Part I. Published by the Society, 1847.

WE have spoken of the character of this Journal at some length in a former number, p. 87. There are several interesting articles and descriptions of many new plants, in the numbers now before us. We are able at the present moment only to notice one.

ART. VII, in Part I, of the new volume, is from the Professor of Chemistry to the Society, Mr. SOLLY. It is entitled, *Further Observations on the Influence of Electricity on Vegetation.* We remarked, in reviewing the first two numbers of this Journal, how unsatisfactory had been all the galvanic experiments which were carefully made with the plates of copper and zinc, after the method given by Mr. Ross, in his remarkable statement two years ago before the FARMER'S CLUB, in New-York, as well as those undertaken to verify Dr. FORSTER'S experiments of enclosing plots of ground with copper wires. These experiments have been repeated again and again in England, and almost universally without the least success. In 1845, we applied the plates of copper and zinc to rows of plants in the open ground, without producing any perceptible effect whatever. And, subsequently, R. L. PELL, Esq., of Pelham farm, N. Y., who exhibited plants *in pots* before the *Farmer's Club*, in New-York, which had been submitted to galvanic action, with what was at the time considered satisfactory results, has informed us that all experiments tried afterwards, *upon plants in the open ground*, completely failed.

As very extraordinary accounts have been given of the supposed or imputed effects of electricity upon vegetation, all accurate and faithful experiments that bear directly upon this subject, are in the highest degree interesting. That electricity may hereafter become a powerful agent in culture, we are strongly inclined to believe; but at the same time it must be admitted, that little or no progress whatever has been made towards a discovery of the manner in which it is to be successfully applied.

In a preceding number of the Journal I drew attention to the subject of electricity in connection with the growth of plants, and briefly recapitulated some of the more important of the numerous investigations which have been made during the last hundred years, with a view of determining the nature and extent of the influence which electricity has been supposed to exert on vegetation. I also described a few of the experiments on this subject which were made last year in the gardens of the Horticultural Society at Chiswick; the general tendency of which, as far as the results of so comparatively small a series of experiments may be trusted, was certainly opposed to the view that electricity in its ordinary forms exerts any very marked influence on the growth of plants. The experiments described were designed with the object of endeavoring to augment or diminish the natural supply of electricity which, under ordinary circumstances, might be supposed to affect the plants; for it was imagined that if this power played so important a part in the phenomena of vegetation, any means which could either diminish or increase the natural quantity of electricity in the earth on plants would necessarily either assist or retard the growth of such plants. No result of this kind, however, was produced; but this was of course only negative evidence, which might be influenced by the form of the experiments and other circumstances; and in drawing the general conclusion that the direct effects of electricity on the growth of plants is far less than is commonly supposed, I was led to do so by other experiments than those described. Some of these I propose now to mention.

In the experiments at Chiswick just alluded to, no direct attempts were made to increase the natural effects of electricity by augmenting its quantity from artificial sources, in the manner described with such opposite results by the electricians of the last century; I was, however, enabled to make a series of observations of this nature through the kindness of Lord Hill, who intrusted the management of the following experiments to his excellent gardener, Mr. F. Nieman, under whose superintendence I was quite certain they would be carefully and accurately carried out, and the results minutely observed and noted.

The place selected for the experiments was one of the grape-houses in his Lordship's garden at Hawkstone, in which the convenience of a dry warm room attached was obtained; in this room, which was in fact part of the storehouse, boarded over above the furnace, a powerful cylinder electrical machine was arranged. The cylinder of the machine was about 20 inches by 16 inches, and was very well insulated, so that although the room was not always so dry as might have been wished, the machine always gave abundance of electricity even in wet and damp weather. Stout glass tubes of about five feet long passed through the back wall of this room into the grape-house, the tubes projecting several inches from the wall on either side into the store-room and grape-house. The walls were nearly four feet thick, being double, and containing flues. Through these tubes copper wires of the 12th of an inch in diameter were carried, one end of each being connected with one of the two conductors of the electrical machine, the other ends of the wires being fastened to two rings of wire placed on the top of the separate stools well insulated with glass legs a foot high. Each conductor of the machine was thus connected with, and in fact made one with an insulated stool in the grape-house, the stools being placed at a distance of some feet from each other, and the wire suspended from the frame work of the house by loops of white silk. When thus arranged, sharp and powerful sparks could be drawn in abundance from any part of the wires or from the tops of the stools when the machine was worked; whilst the latter was so completely apart from the house and plants as not to be at all affected by the moisture, &c., necessarily present in the grape-house. It was also found that a pot of moderately moist earth containing a growing plant, when placed upon the wire circle attached to the top of each stool, became thoroughly charged with electricity when the machine was worked, and gave abundant sparks to the hand or a piece of metal.

The first experiment was made in October, 1845. Four sets of pots were taken, in all respects perfectly alike; each set consisting of five pots containing, 1, young plants of French beans; 2, young plants of the common scarlet geranium; 3, young plants of strawberry; 4, seeds of wheat; and 5th, seeds of mustard and cress. One series was placed on the wire ring on the insulated stool connected with the positive conductor of the machine; a second on that connected with the negative; a third on a similar stool of wood wholly uninsulated, placed near the insulated stools as a standard of comparison, whilst the last was sunk in tan and exposed to the influence of bottom heat. The experiment was carried on for four weeks, the two stools being strongly electrified four hours a day, namely, from ten to twelve in the morning, and from two till four in the afternoon; during this time the French beans came into blossom and formed pods. Those which were positively electrified were rather more forward than either of the other three sets, appearing to be about four days more advanced. Mr. Nieman, however, does not think that this could be fairly attributed to the influence of the electricity, but that it was caused by accidental circumstances. In the other plants no difference whatever could be observed, and the seeds came up at the same time and were in all respects perfectly alike.

Being rather surprised at this result, and having certainly expected to observe some little difference in the germination of the seeds, I requested the experiment might be repeated with some other seeds, and this was accordingly done in January, 1846, with pots containing wheat, barley, oats, mustard, and rye. The action of the machine was kept up four hours a day for three weeks, but in this case also no perceptible difference whatever could be observed. As in these two experiments, however, the conditions were very unlike those which ever can occur in nature, another experiment was tried at the suggestion of my friend, the Rev. E. Sidney, in which the plants themselves were left quite free and untouched, a peculiar electric state being brought about by induction, so as to resemble as far as possible the effect of an electrified cloud. For this purpose the insulated stools were removed and a branched wire terminating in several points connected with the wire from the positive conductor of the machine was suspended over an uninsulated pot in which wheat was sown, a wire from the negative conductor being connected with the ground as in the ordinary manner of working a machine. The machine was worked as before four hours a day, and consequently the germinating wheat was exposed every day to the influence of the positive electricity given off from the pointed wires suspended a few inches above it. Another similar pot of wheat was kept by way of standard, and on comparing it with the electrified wheat from day to day no difference whatever could be observed.

Since to some extent plants growing thus under glass can never be fairly compared with those growing naturally in the open air, it became desirable to make an experiment with plants growing wholly in the open air, and for this purpose three sets of pots were arranged in the open air, two being placed on insulated stools, and the third placed close by, but uninsulated, the three being in all other respects perfectly alike. One stool was connected by wire with the positive, and the other with the negative conductor of the machine. Six pots were taken in each series, containing seeds of French beans, spinach, cauliflower, turneps, cabbage, and mustard. The machine was worked four hours a day, from ten till twelve in the morning, and from four till six in the afternoon; the experiment was commenced early in July and continued till nearly the middle of August, and the weather being remarkably fine and warm, the machine worked well and gave abundance of electricity. In the middle of August the working of the machine was discontinued, the plants were all then perfectly similar, and during the whole time of carrying on the experiment no perceptible difference could be observed in any of the pots.

The general result to be drawn from these four experiments made on different kinds of plants is certainly opposed to the idea of much influence being exerted by free electricity on the growth of plants under ordinary circumstances. It is very possible that the arrangements devised for the purpose of those experiments were by no means the best, or those most fitted to exalt the effects sought for, but

nevertheless a number of seeds and young plants were placed four hours a day under the influence of an unusual quantity of negative and positive electricity, and it is hardly possible to doubt that some effect would have been apparent were the free electricity of the earth and air of so much importance in connection with vegetation as has been supposed.

LITERARY NOTICES.

I. Transactions of the Massachusetts Horticultural Society.—Our readers will already have noticed the announcement that this Society is about to publish a very beautiful edition of its Transactions, in a serial form, to be issued once in every two months.

The work will be not merely a record of the exhibitions held, and the business transacted by the Society. It will also contain able papers from its numerous regular and corresponding members, embracing by far the largest portion of the practical skill and talent in the country.

Besides this, it will be richly illustrated with coloured plates of fruits and flowering plants, executed in a very superior manner. These plates will be accompanied by authentic descriptions of the varieties represented, and will add very largely to the value, as well as the beauty of the work.

The literary supervision of the *Transactions* will be undertaken by J. E. Teschemacher, Esq., a gentleman distinguished for his scientific attainments, and his devotion to the interests of Horticulture. In order to insure, as perfectly as possible, authenticity and correctness in the nomenclature and description of the products of horticulture, the *Committees* of Fruits, Flowers, Vegetables, &c., will also carefully examine and arrange all materials on these subjects, before publication. We shall, therefore, confidently expect a work of rare excellence, beautiful execution, and which may be looked upon as authentic, in all matters relating to the science of horticulture in New-England.

The admirable spirit and zeal with which this Society has been conducted, has won for it not only the entire confidence, but also the most generous patronage of the most distinguished citizens of Boston. We must be allowed to say that this is due, in no small degree, to the untiring devotion of mind and body to its interests, manifested for years past by its President, and the thorough and practical committees which share its executive labors with him.

The same force and intelligence will, we doubt not, be carried into this publication of its new *Transactions*, and we therefore commend the work, with great confidence, to the attention of our readers.

II. The Coloured Edition of *the Fruit and Fruit Trees of America*, by A. J. Downing, announced for publication last winter, has been unavoidably delayed by the length of time required by the artists in Paris, engaged in executing the plates. The largest portion of the latter have now, however, been received by the late French packets, and our publishers, Messrs. Wiley and Putnam, New-York, expect to issue the work, complete in one beautiful 8vo volume, about the middle of May.

III. Messrs. Wiley and Putnam have just issued the *eighth edition* of our *Fruit and Fruit Trees of America*, in 12mo., with numerous revisions and corrections.

IV. The same publishers have in press, and will publish in a fortnight, a reprint of a valuable new English work, with considerable additions and notes by the editor of this journal, entitled, *Hints to Persons about Building in the Country*, by A. J. Downing; and *Hints to Young Architects*, calculated to facilitate practical operations, etc., by George Wightwick, architect, 8vo.

FOREIGN NOTICES.

New French Pears.—The city of Angers, associated with so many things in horticulture, has just enriched our fruit garden with several new pears, which the horticultural committee of that city have classed in the first rank of good fruits. Three of these novelties, are the result of the zeal and enlightened perseverance of M. Goubault, gardener at Angers, and the Comice Horticole, has, to mark its appreciation of these results, decreed him a gold medal. The following is the description of the three new varieties of pears, originated by M. Goubault, as given by M. Babtiste Despertes, member of the *Societé Industrielle d' Angers.*

Beurre Goubault.—Size that of the *Belle de Bruxelles;* skin of a greenish yellow, marked with dots; eye open, but little depressed; stalk rather slender and long, (longue de 0m 06. a' 0m) flesh fine grained, buttery, perfumed, slightly coarse-grained towards the core, of very good flavor. It ripens in the first half of September.

Doyenne Goubault.—Size larger than that of *Doyenne d' Hiver*; flesh melting, perfumed, flavor exquisite; colcur yellow, marked with gray dots. It commences to ripen in November, and will keep till April. This is a most excellent fruit of the first quality, which is destined to have a place in all fruit gardens.

Beurre Superfine.—Fruit a little elongated, nearly 4 inches high, and 2¾ in its widest diameter, and more or less angular or irregular (*tourmenté*) in its outline, especially towards the *stalk*, which is thick and swollen at its base, and rather short, (longue de 0m. 03;) skin yellowish gray, becoming yellow at maturity, when it is more or less covered with reddish dots, and lines forming a kind of net work. The sunny side is marked with some red spots. Flesh fine-grained, buttery, full of juice, highly perfumed and excellent; ripe at the end of September. This, like the two first, is a fruit of the first quality. *Revue Horticole.*

[Col. Wilder has just sent us a tree of each of the foregoing new varieties, which, as usual, he has been among the first to introduce into the United States.—Ed.]

American Grapes in Germany.—The *Isabella* grape is attracting some attention in the interior of Europe. Our friend and correspondent, M. Otto, director of the Royal Botanic Garden of Berlin, we understand first introduced it to the notice of German horticulturists, as a *climbing plant*, superior to almost every other, for purposes where luxuriance and rapidity of growth are desirable, such as covering buildings, walks and arbors. The *Revue Horticole* gives an extract from a horticultural journal, published at Zurich, also loudly praising this native grape. We translate a paragraph or two:

"The shoots of the *Isabella Vine* grow ordinarily in a single season, from 9 to 18 feet, and its leaves when well developed, measure 9 or 10 inches long, and still more in breadth. They are of a fine green on the upper surface, and on the lower surface are covered with a white felt of fine nap, which adds singularly to the effect produced by them, when growing in masses, and put in motion by the wind.

No plant can be better than this for the decoration of parterres, for climbing trees, covering arbors, or unsightly garden walls, and it is the more suitable for this, from the rapidity of its growth and the *grandeur* of its leaves."

The writer goes on also to say, that it bears, as compared with European vines, *enormous crops of fruit*. He thinks though this fruit would not alone make a wine of much strength, yet it may be valuable for mixing with other grapes to communicate to the wine its peculiar aroma. This peculiar aroma, he says, prevents all the world from finding it agreeable as a table grape, though many persons are fond of it.

Reine Claude de Bavay Plum.—When in Brussels, some two years since, I visited the nursery of Bavay, at Vilvorde, near that city. Among several new fruits, I found the new Plum *Reine Claude de Bavay*, of which he kindly presented me with a colored engraving, which I send herewith. (We give an outline, figure 115.) This plum was produced from the seed of the old Reine Claude, by a Belgian gentleman named Esperin; and I translate from the *Revue Horticole*, the following description, which is much more detailed than any I could possibly give from recollection:

"Although this plum has been already figured in several works on horticulture, we may be allowed to enlighten amateurs respecting its characters, after having seen its fruit produced by a tree, for which we are indebted to the kindness of Messieurs Jamin and Durand.

"This plum is more oviform than round;" it is longitudinally marked by little violet coloured veins on a yellowish ground, sometimes accompanied by little spots of the same colour, and covered with a waxlike and scarcely apparent bloom. Its flesh adheres slightly to the stone; the habit of the tree is similar to that of the old Reine Claude (*green gage;*)

the wood is a little greyish; the branches are vigorous, and the leaves are large and of a beautiful green colour.

"This plum," although very good, is not equal to the old Reine Claude, but its chief value is the season of its maturity. This last year, notwithstanding the great heat we have experienced, it did not ripen until the 29th of September, a time when no fruit of the old Reine Claude can be found remaining."

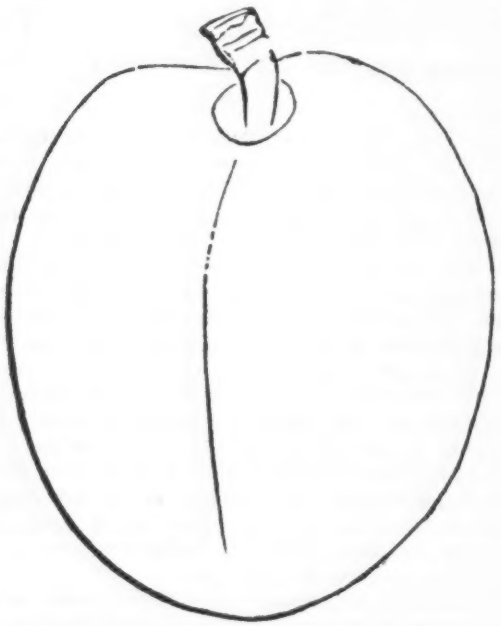

Fig. 115. *Reine Claude de Bavay Plum.*

From the above description, it is probable that this variety will be an acquisition to our list of late plums partaking as it does,in a great degree of the merits of the old Queen Claude or the well known Green Gage. We have it among our specimen trees, but have not yet culivated it for sale.—S. B. Parsons. *Flushing, Long Island, N. Y. April*, 1847.

Tobacco water for Destroying Insects.—The tobacco water I have used is procured from the tobacco manufacturers. In the process of preparing tobacco for use, the dried herb is steeped for a certain time, and the water which it has absorbed, is afterwards expressed from it, into the water in which it had been steeped. This liquor is to be purchased at eight pence or ten pence per gallon from the manufacturers, and should be obtained as pure possible, without adulteration. One gallon of the liquor is stronger than any that could be made by steeping several pounds of tobacco in the same quantity of water. The mixture of the tobacco liquor with water is in the following proportions, and should be applied to the trees infected, by means of a garden engine, or syringe, taking care in its application, that it is given so forcibly that the under side of the foliage is well sprinkled. For the destruction of the common aphis, or green fly, I mix one gallon of tobacco liquor to five gallons of pure water; this quantity is sufficient to wash three trees twelve feet high, and each extending fifteen feet in breadth. For destroying the black insect, one gallon of liquor to three of water. For destroying the caterpillars on the pear, apple, plum, and apricot trees, and on gooseberry bushes, one gallon of liquor to four of water. The above proportions have been frequently tried, and have never failed of success. —*J. H. London Hort. Mag.*

Fig. 116. *Spiræa prunifolia.*

Spiræa prunifolia, with double flowers.—This charming shrub was introduced into Europe by Dr. Siebold, to whom our collections are indebted for so many novelties, only to be procured with the utmost difficulty. It deserves the attention of all amateurs, as well for its hardiness as its elegant habit and beautiful flowers. The Dutch traveller found it cultivated in the Japanese gardens, and

supposes its native country to be Corea, or the north of China. It is a shrub of from 6 to 9 feet high, and has upright, close, bushy, slender branches, which are covered with a smooth, ash-coloured bark, that detaches itself at a later period in thin scales. The leaves are oval, or ovate-elliptic, rounded at their base, obtuse or a little acute at their apex, downy beneath, denticulated at the edge. The flowers, which grow by threes or sixes, cover the whole length of the branches, are as white as snow, and very double, in consequence of a complete abortion of their stamens. Their shape is exactly like that of the Ranunculus aconitifolius, with double flowers, and their number and arrangement, together with a light and elegant bright green foliage, render this plant a charming addition to the shrubs which grow in the open air.—*Ch. L.* For the accompanying woodcut we are indebted to Mr. Van Houtte, of Ghent, who has a large stock of this plant for sale.—*Gard. Chron.*

.....

Manzanilla Wine.—"In Andalucia it was no less easy for the Moor to encourage the use of water as a beverage, than to prohibit that of wine, which, if endued with strength, which sherry is, must destroy health when taken largely and habitually, as is occasionally found out at Gibraltar.—Hence the natives of Xerez themselves infinitely prefer a light wine called Manzanilla, which is made near San Lucar, and is at once much weaker and cheaper than sherry. The grape from whence it is produced grows on a poor and sandy soil. The vintage is very early, as the fruit is gathered before it is quite ripe. The wine is of a delicate pale straw colour, and is extremely wholesome; it strengthens the stomach, without heating or inebriating, like sherry. All classes are passionately fond of it, since the want of alcohol enables them to drink more of it than of stronger beverages, while the dry quality acts as a tonic during the relaxing heats.—It may be compared to the ancient Lesbian, which Horace quaffed so plentifully in the cool shade, and then described as never doing harm.—The men employed in the sherry wine vaults, and who have therefore that drink at their command, seldom touch it, but invariably, when their work is done, go to the neighboring shop to refresh themselves with a glass of 'innocent' Manzanilla. Among their betters, clubs are formed solely to drink it, and with ice water and a cigar it transports the consumer into a Moslem's dream of paradise. It tastes better from the cask than out of the bottle, and improves as the cask gets low.

"The origin of the name has been disputed; some who prefer sound to sense derive it from *Manzana*, an apple, which, had it been cider, might have passed; others connect it with the distant town of *Mansanilla* on the opposite side of the river, where it is neither made nor drunk. The real etymology is to be found in its striking resemblance to the bitter flavour of the flowers of Chamomile (*manzanilla*) which are used by our doctors to make a medicinal tea, and by those of Spain for fomentations. This flavour in the wine is so marked as to be at first quite disagreeable to strangers. If its eulogistic consumers are to be believed, the wine surpasses the tea in hygeian qualities: none, say they, who drink it are troubled with gravel, stone, or gout. Certainly, it is eminently free from acidity. The very best Manzanilla is to be had in London of Messrs. Gorman, No. 16 Mark Lane. Since '*Drink it, ye dyspeptics,*' was enjoined last year in the 'Handbook,' the importation of this wine to England, which previously did not exceed ten butts, has in twelve short months overpassed two hundred; a compliment delicate as it is practical, which is acknowledged by the author—a drinker thereof—with most profound gratitude.

"By the way, the real thing to eat with Manzanilla is the *alpistera*. Make it thus:—To one pound of fine flour (mind that it is dry) add half a pound of double refined, well-sifted, pounded white sugar, the yolks and whites of four very fresh eggs, well beaten together; work up the mixture into a paste; roll it out very thin; divide it into squares about half the size of this page; cut it into strips, so that the paste should look like a hand with fingers; then dislocate the strips, then dip them into hot melted fine lard, until of a delicate pale brown; the more the strips are curled up and twisted the better; the *alpistera* should look like bunches of ribbons; powder them over with fine white sugar. They are then as pretty as nice. It is not easy to make them well; but the gods grant no excellence to mortals without much labor and thought. So Venus, the goddess of grace, was allied to hard-working Vulcan, who toiled and pondered at his fire, as every cook who has an aspiring soul has ever done. —*Ford's Gatherings from Spain.*"

.....

Italian Asparagus Growing.—We have so often occupied the attention of our readers with the subject of Asparagus, that it would seem that little remains to be said. It is, however, too excellent a vegetable, and its good qualities are so much impaired by the common mode of cooking it, that for ourselves, at least, every new fact connected with it, is interesting. We therefore make no scruple about mentioning the following method of growing asparagus at Nice, of which we have just heard a high account, but of which we have no personal knowledge. Now is the season for trying the experiment, and we trust that some of our correspondents will put it in practice.

Take a quart wine bottle, such as French wine is sold in; invert it over the head of an asparagus shoot, just rising above ground, and secure it by three sticks, so that it cannot be knocked over. If left in this state, the asparagus will grow up into the interior of the bottle, and being stimulated by the unusual heat and moisture it is there exposed to, will speedily fill it. As soon as this has taken place, the bottle must be broken, and the asparagus removed, when it will be found to have formed a thick head of tender delicate shoots, all eatable, and as compact as a cauliflower.—*Gard. Chron.*

.....

Frozen Roots.—Trees may be transplanted, generally, from the month of October, until early in the spring. Now, it often happens that those dispatched during the winter months are touched by the frost, and the roots are found to be injured, in spite of the care taken in packing. For this diffi-

culty M. DAUVESSE suggests the following remedy: When first received, keep the plants in the packing, and put them under shelter in a temperate place, either a cellar or vault, or better still, if possible, in the ground; opening for this purpose, a trench long and deep enough to cover the roots and collars of the trees, then covering them afterwards with the earth taken from the trench, and leaving them in this condition until the thawing is complete; they are then taken from the trench, the plants are unpacked, and usually found to have returned to their normal state, which is not the case when they have been left in the open air. Plants that have been a long time packed, sometimes appeared to have suffered, and show wrinkles or shrivelling upon the bark or roots, particularly in the autumn, when the bark is full of sap, at the time of taking up, which evaporating gradually, ceases to fill them as before. It is best then, immediately after unpacking, to plunge the roots and even the stems of the plants which have suffered, in water, for several hours. It is a good plan, and recommended by ANDRE THOUIN, to soak the roots in a tub or trench in which some cow manure has been diluted, so as to let it settle upon them. We know that this method has been effectual for trees sent to a distance in the spring, and when there is reason to fear the effect of drouth upon the roots.—*Pepin, in Revue Horticole.*

DOMESTIC NOTICES.

ENORMOUS GRAPE VINE.—I have lately made an excursion to Burlington, New-Jersey, for the purpose of obtaining the exact measurement of the most *extraordinary grape vine* I have ever heard of. It stands on a farm called *West Hill*, belonging to my late brother; two miles from the city of Burlington, New-Jersey, and the truth of what I am about to relate, may be readily verified, though in print it may really seem incredible. At three feet from the ground, it measures *six feet one inch* round the trunk, and at ten feet high, it is positively *three feet* in circumference!* It is a native male grape, and has been the wonder of the neighborhood, as long back as the memory of man reaches. It is still healthy, and its giant folds run over and cover four trees, one of which is a full sized white oak, and the others are quite large.

The casual reader as he glances over these unusual dimensions, scarcely realizes the enormity of this vine. Let us try if we can, to make it comprehensible, by a comparison or two. A string six feet one inch long, will enclose two tolerable corpulent people; and these dimensions are as large as a good sized washing tub. You may thus form an idea of its great growth. This vine grows near a springy soil on upland, its roots no doubt penetrating to the water. May not this teach us a lesson, to give the rootlets, wherever it is possible, access to a spring or running water; it may be a question too, whether we do not cut down our vines too much. I observed frequently in England, that a whole house was devoted to a single vine, generally of the Black Hamburgh, and I think they uniformly bore the finest grapes; to carry a single vine over a large grapery, would of course require several years of judicious trimming and management.

While on the subject of grapes, I might remark that something has yet to be learned of the most economical mode of raising them under cover. In a late number, (Dec. 1846,) one of your correspondents noticed Mr. CHAUNCEY'S, in Burlington, which were not protected in winter, and had the frames used for forcing beds placed over them in the spring. thus economising, by using one set of glasses for two purposes. In the April HORTICULTURIST, (page 481,) a correspondent has written on "early peas, and cheap hot bed lights," for which I have taken a hint for future application to a grapery. If coarse cotton stuff, covered with oil, &c., as there recommended, is sufficient to protect early peas, it would undoubtedly answer for a summer grapery, and we may thus soon solve the important problem of raising the best foreign grapes without an immense cost. Why not, for instance, place your vines against a plain tight board fence, and stretch your prepared "coarse cotton stuff" over them, from the middle of March, until the fruit was ripe.—A grapery thus constructed, would at all events be easily ventilated, without the movement of troublesome shutters. I am led to believe, that tons of grapes will yet be produced in this cheap manner, enriching the grower, and gratifying the public by reduced prices. In this city last season, good foreign grapes were bought up eagerly, by retailers, at fifty cents a pound; when raised without heat, on a large scale, this would surely be a profitable crop to those who understand their management, and who do not invest too much in the buildings.

FRUITS IN PHILADELPHIA.—The above is an interesting topic, as indeed are all which relate to the production of good fruit. I am sorry to say, that with all the planting that has been done in this neighborhood, we rarely, if ever, can buy a truly excellent pear, and good grapes are beyond the means of most. Good apples, too, are rarely in profusion among us; in short, our horticultural exhibitions, which make one's mouth water with specimens, have no counterpart in our markets, except it be in melons and peaches, in which we excel.—Pears I have observed, rarely do exceedingly well in the country, while a few city trees bear luxuriantly very fine fruit; it is owing to the superior protection and warmth of the town.

PLANTS.—So too with *rare* and beautiful plants; they are extremely difficult to procure; showing emphatically that the *business* of horticulture is not overdone; of the *Remontant*, or Perpetual roses,

* The celebrated vine at Hampton Court, which we have seen, does not, as regards size, deserve to be mentioned in the same paragraph.

scarcely a specimen can be bought there, except very small ones, or budded bushes. Some of the most beautiful things are unknown to the mass of the people, and are not to be had, though extremely easy of cultivation. I am very confident that not a dozen *Cedars of Lebanon* could be bought in the county of Philadelphia, though the tree is adapted to our climate, and stands unrivalled among evergreens. This is not so much to be wondered at, because the seeds brought over here rarely vegetate, and to bring the plants is expensive, and attended with loss; but one would suppose it would be easy enough to purchase such common plants as the *Irish Yew*, or *Wistaria sinensis*, or *Cobea scandens*, and a long list of things, indispensable to ornamented grounds; no such thing as a tolerably large box tree can be purchased, and yet land where these might grow and produce twenty per cent per annum, is plentiful and cheap; the people go for the "ready penny," and will grow a waggon load of cabbages for half the price of a single plant or a tree of a valuable kind. The city is justly famous for the taste for and abundance of common green house plants; but this has been the case so long, that we are enabled to look for an advance. I mention all this, to impress upon your readers the fact that there is yet a new and untrodden path—a public want unsupplied, which is open to enterprising individuals, who would study the demand. I really believe I could not now buy a Triumph of Luxemburg rose higher than three feet in our region of country, and yet they are easy of propagation, very valuable, tolerably hardy, and to be seen in few private gardens. Acres devoted to such plants as I have named just as they occurred to me, would surely prove more productive than if planted with common vegetables. Who would not buy fine large specimens of the best roses? The market is annually overstocked with forced plants of poor kinds, instead.

With a rapidly increasing population all around us, (Philadelphia was never more prosperous than now,) there are fine openings for men of skill, taste and perseverance to found extensive nurseries of trees and plants. I would exclude every common trashy article from a list to be grown and propagated, and devote space and time to valuable varieties which would bring several prices more than the inferior. To do this, a man should be versed in his business; should *know* what is desirable for permanent ornament, and should stem for a few years the current of opinion, until he could show what superior things to those in use nature has provided for the gratification of our tastes. This may all be bad advice to the initiated, and I throw it out as mere opinion for thinking men to reflect upon. Sure I am there is some reason in it. I have been led to this train of thought, from inspecting lately, various gardens in our neighborhood, in which few of the beautiful and valuable plants are grown, and have to regret when their names were mentioned as desirable possessions, to hear it said, "Oh! yes—but where are we to buy them?"

Planting in Cemeteries.—I regret that you will not follow my notion, suggested some time since, that HOLLY is the true hedge for enclosing cemetery lots, and indeed for any purpose, for which a hedge is required; the difficulty of procuring or raising it is one drawback, but let me assure you there is nothing can ever equal in beauty or durability the holly, in the praise of which, I am an enshusiast.—*J. J. S., Philadelphia, April* 10, 1847.

[The European *Holly* does not bear the climate well, north of Philadelphia. It is, perhaps, the most beautiful evergreen hedge plant in the world, and we cannot too strongly recommend it to those farther south.—Ed.]

.....

Treatment and culture of Cacti.—The collection and cultivation of the numerous species of the genera, comprised in the natural order, *Cactaceæ* during the last few years, has introduced many new and singular forms of vegetable life to the notice of our spirited patrons of Botany. They are beginning to attract general attention, both from the grotesque forms of a great number of them; and the beauty and profusion of the flowers of some of those already well known, render it no easy task to name their superior in splendor.

The culture of this order divides itself into two or three distinct methods of treatment. I shall confine myself in the meantime to what are more particularly styled *free flowering kinds*, viz: *Cereus speciosissimus C. jenkinsonii*, &c., and others of the order most nearly allied in habit.

And to see the way that even they are treated in the generality of gardens, one would hardly suppose them possessed of sufficient beauty or interest to render them worthy of any care. Even the *Epiphyllums*, which come under the same class, and always in request both from their splendour, and the season at which they flower, are mostly seen *closely laced up to a strong stalk*, the surface of the earth in the pots covered with moss, and if you examine the soil, it will be found half lime rubbish.

Surely these plants are worth a little more attention. A little of the trouble generally lavished on other plants of minor importance, would grow this family admirably, and give greater satisfaction to the lovers of floricultural beauty.

A mixture of loam, leaf mould, and thoroughly decayed cow dung, with a good proportion of white sand, and above all, the pots properly drained, will not fail to bring these plants to a high state of perfection and establish for them a situation in the front ranks of our green houses and plant stores, instead of, as at present, being stowed away in some obscure corner.

Shortly after they have done flowering, pot them into the prepared compost; thin out the least promising of the old and young wood, and place them into a moderately warmed house, until they start, growing freely. If the air of the house is *too close*, no wood of any strength will be produced. Reduce the allowance of water gradually, as they perfect their strongest growth, and when they have done growing, and the wood feels firm, they are much benefitted by being turned out of doors, in some half shady, but airy place where they can be *protected from wet*.

Plants thus managed, will be found to flower well, and can be forced, or retarded, so as to produce their flowers for a considerable length of time.

The *Epiphyllum*, and some of the weakest growing of the other varieties, make the best plants

when grafted on the *C. triangularis*, or *Pereskia;* but *C. Jenkinsonii* and such like require no foreign stem to lift them into notice. I have seen an *Epiphyllum truncatum* that was grafted on the *Pereskia*, the branches of which covered a space four feet in diameter, beautifully garnished all around.

I have no doubt but guano will prove a most excellent, as well as useful manure for the whole family of *cacti*. I have not sufficiently tested it, to state anything definite on its merits respecting the present genera.—DAVID HUNTER, *Gardener to Robert Rennie, Esq. Lodi, New-Jersey.*

.....

QUERIES FROM MAINE.—*A. J. Downing, Esq.* I have read with great pleasure and some care, your book on *Fruits* and *Fruit Trees*, also from the *first*, the Horticulturist.

Already have these works awakened a lively interest in many minds, in this northern and eastern section of country. Among the untiring and zealous agents in the dissemination of choice fruits, is Col. H. LITTLE, of this city, well known to you, and whose labours will not fail ere long, to be duly appreciated.

The desire for choice fruits being excited, the very natural and most important inquiry arises, how shall such be successfully cultivated?

Notwithstanding the excellent directions contained in your work on the *nature, condition* and *preparation* of soils, there is still felt in particular cases the need of additional information.

In your treatise on fruits and trees, page 44, you say: "no fruit tree should be planted in a hole less than from 18 inches to 2 feet deep," &c. Mr. Eaton in his communication on transplanting trees in the January No. of the Horticulturist, says: "deep plowing is highly beneficial,..... and the holes for the trees should be from 20 inches to 2 feet deep." In the critique on Mr. Eaton, in the March No., page 438, it is further directed "to subsoil plow to the depth of 18 or 20 inches," &c.

Now, so far as the *depth* is concerned, all this is important, but overlooks, as it seems to me, the following *considerations*, namely, whether the site for an orchard be a *level* on an *undulating* surface; the subsoil *wet* or *dry*; a *gravelly pan* or *compact clay*, and a *warm* or *cold* soil.

Suppose the site for an orchard, a *level* or nearly so, with a clay loam 10 or 12 inches deep; a compact clay subsoil, and the whole what is usually called a cold soil, as is often the case here, and such is the only spot for the orchard. I should not deem it wise to subsoil plough, or to spade with the view of making a soil, in part of the subsoil, and at so low an elevation. On the contrary, I would advise that the loam be thrown up by backfurrowing in one direction, until the top soil be 18 inches or 2 feet deep above the subsoil.

By this process, warm and dry ridges would be obtained, on which to set the trees.

[Subsoiling or trenching is of the greatest benefit in all soils, whether warm or cold, *provided the land is, or can be well drained.* If the land is level, and lies wet, deepening the soil is worse than useles, *unless it can previously be well drained.*—Sloping lands will not of course need this, but level soils with a retentive subsoil, should, if possible, always be drained by a few deep drains before subsoiling them.—ED.]

If we suppose the soil and subsoil of such a site, to be warm and dry, then the subsoil plough may be used.

Again, if the surface be undulating, and the soil a deep gravelly loam 18 inches or 2 feet deep, I would use the subsoil plough only to loosen the soil.

There are other cases I might suppose, but the above are sufficient for my object, which is to show that the different conditions of soil require different modes of preparation. On the presumption that the requisite knowledge for preparing the ground according to the site, the nature and condition of the soil was general, my suggestions would be quite useless. My remarks, however, are based on the belief, that most people have not more knowledge in the one case than in the other.

In this climate, would you advise to plant the apple tree (on a gentle northern slope) 25 or 30 feet apart each way, the ground being wholly devoted to the orchard?

[The northern slope is not objectionable for the apple tree. Thirty-five feet is, we think, sufficiently close for apple trees. If planted 25 feet, it is not sufficient that the whole strength of the soil is given up to the trees; it will also need very frequent and plentiful dressings with manure to keep the trees in good bearing condition, or they will decline in a much greater ratio than the distance would indicate, when planted 40 feet apart.—ED.]

Do the roots of the pear strike downwards; and should the subsoil be so compact as to prevent their entrance?

[The roots of the pear will not strike downward unless there is sufficiently good soil to invite them, and when this is the case, where there is plenty of sun and air, and good drainage, it is not injurious.—ED.]

What the distance apart for pears, and what for plums on a like slope as the apple? [Twenty feet for pears, 16 to 18 feet for plums.—ED.]

What is the probable age of the pear on the moutain ash and thorn? [From 12 to 20 years.]

On which would you advise to insert the pear? [On neither if you can get pear stocks. Either one is a tolerable substitute.]

What is the best size of the ash and thorn for this purpose? [Quite small, so as to be grafted in or near the ground.]

Should the mountain ash, like the thorn, be engrafted or budded close to the ground? Would you advise to insert the pear into the tops of the mountain ash when of considerable size, say one and a half inch in diameter or more? [We think the pear would be short lived if grafted in the head of a mountain ash tree.]

Are there any among the choice kinds of pears that would probably succeed on the mountain ash in this climate, that otherwise would not? [No doubt several of the beurrés would do so, but *experience* is wanted on this point.]

Would you recommend, in an orchard of pears

on their own stocks, to plant those inserted on the ash or thorn, in the middle of the squares, making the quincunx form? [This would be a very good mode.]

In transplanting, how much charcoal, how fine, and how applied to the tree? [Half a peck to each tree, if easily obtained, and it should be thoroughly mixed with the soil before planting.]

What is your opinion of leached ashes for such trees, how much, and how applied on a gravelly and clay loam. [It is one of the best manures for all fruit trees. Apply it as a top dressing, at the rate of 200 bushels to the acre, and put a small heap around the trunk every spring, to deter the peach worm.]

Would the want of a compost for planting trees, as recommended in your work on fruits, make it advisable to defer planting until another year? [Never plant trees unless you are ready to put your soil in proper order for it; for then it is very difficult to put it in equally good order afterwards.]

An answer to the foregoing queries, will confer a great favour on your distant correspondent.—Very respectfully yours, ELIJAH BECKWITH. *Bangor, April*, 1, 1847.

.....

THE OSWEGO BEURRE PEAR.—An article in the February No. of the Genesee Farmer, has just met my eye, in which the editor of the horticultural department of that paper, objects to the name given by me to the Oswego Beurre, and calls on you to discountenance it. He says: "We find another instance of this throwing away a popular name, and adopting a new, in the case of the *Oswego Beurré*. This pear was originated by Mr. *Walter Read*, and called there, and known, where known at all, as *Read's Seedling*, a most appropriate name surely. We repeat, that this changing of names is the very way to perpetuate and multiply the errors and difficulties in which American pomology is so deeply involved. It seems that every man who finds a fruit he does not happen to be acquainted with, wants to give it a name of his own. The Horticulturist should discountenance this."

Having received several letters from sections of the country where the Genesee Farmer is circulated, asking for grafts of *Read's Seedling*, I am induced to enter my protest against dropping the name as given in the January No. of the Horticulturist, OSWEGO BUERRE or *Read's Seedling*. It should be written *Read*, that being the family orthography.

This pear was never grafted into any nursery before last spring, when it was put in mine, and recorded as the *Baldwin*, the name of the then owner of the only tree of the variety in existence. I told my foreman it was wrong, that we should call it the *Oswego Beurré*, or Read's Seedling. A definite terminology is desirable on all subjects, and especially so in Pomology. *Oswego Beurre* is the most definite name that can be chosen, giving the locality of its origin, a point of importance to the public, as it is the only American pear within my knowledge, having all of the requisites of a first rate fruit, *that has originated so far north*. It defines also the class to which it belongs, as it possesses in the highest degree the Beurre properties in its buttery flesh. Mr. BARRY is mistaken in saying it is known here as Read's Seedling. The names *Oswego Beurré* and Read's Seedling, are connate, both having been given by me at the the same time. It is a remarkable fact, that this tree which has born fruit for the last sixteen years, should not have drawn the attention of either market or amateur cultivators, and been named and propagated before.

To show the ignorance that prevails here, in relation to the value of fine pears, and present a reason perhaps, why the *Oswego Beurré* was not earlier brought before the public, I would state the fact that the *White Doyenne* or Virgalieu, and *Brown Beurre* varieties that have been most disseminated here, and *thrive here equally as well as the most hardy natives*, have been sold by our farmers for several years past, to fruit dealers at from 4 to 6 shillings per bushel, when in fact they were worth about as many dollars as they received shillings.

Deacon Walter Read, now deceased, who planted the tree, from which the Oswego Beurre was produced, was a man of high moral worth, and on whose narration of the history of the tree, personally given, I place the most implicit reliance, was neither a market or amateur cultivator, and had not on his premises a grafted or budded pear tree, but was a substantial farmer, with a large family who used the crop themselves, mostly before ripe, for baking, till within four or five years, since which time it has borne from twelve to sixteen bushels annually; and the family have sold a portion to fruit dealers in this village, by which means I discovered it, and have since purchased all of the crop for sale.

Believing that this pear is the most valuable variety known here at the north, for extensive cultivation, I was desirous, not only that it should retain the name by which it was at first christened, but that some additional facts of its history and qualities should be given. To enable me to give such facts without depending entirely on my own memory, or that of Deacon Read's, I went yesterday to the house of his widow, and from her and members of her family, of an age to know the history of the tree, as well as from several of the neighbors on whom I called to make inquiry, I find they do not essentially vary its history from that given me by Walter Read, four or five years since.

Their concurrent testimony establishes the following facts: that twenty-two or twenty-three years ago, Mr. Read had a very rich pear given him by a friend, that had but three seeds, which he saved, and planted between the roots of a stump; two came up, one was destroyed by the cattle, and the other stands now where it was originally planted—that it bore fruit according to the testimony of the widow, several of her children, and one observing neighbour, when it was but *six* years old; that it has borne a fair crop every year since it came into a bearing state, and has produced sixteen bushels in one year; that in the year 1834, when other varieties growing an equal distance from the lake, were nearly or totally destroyed by frost, the

Oswego Beurre bore a full crop; that it holds its fruit in severe gales of wind better than any other variety of large pears known to them, and that it was equally fine in cold and short seasons, when other fine varieties were indifferent.

There are one or two inaccuracies in the otherwise very complete description of this fruit, published by you in this journal, which no doubt grew out of the imperfect verbal account I gave on presenting the specimens last autumn.

The first relates to its parentage; that it was raised from a seed of the *White Doyenne*, is only a conjectural and probable, and not a certain point. Mr. READ did not at the time know the latter pear. I, however, from his description of the fruit, and time of ripening, etc., have no doubt that it was of this variety.

Secondly, I think the fruit averages large size; I found it this year to average quite as large as that of the *Brown Beurré* grown here, in a situation and soil entirely similar.

As regards the season of maturity, it was stated that it ripens with the White Doyenne. I think, though the specimens I gave you were ripe at that season, yet its average season is that of an *early winter* fruit. The first time I ever ate Oswego Beurre was in December; they were at maturity, and very delicious in January, 1846, a season peculiar here, for the early maturity and decay of fruit. This pear will ripen even if picked prematurely, and by attending to early and late picking, and proper ripening off afterwards, they may be eaten in perfection from the middle of October, to the middle of January.

I should have been glad if this fine fruit had not been prominently brought before the public, till all could have been furnished with grafts or trees without partiality, which from the very limited supply of grafts, it is now impossible to do. I can, however, still give the variety to amateurs and nurserymen, but not in the quantities desired by the latter.—J. W. P. ALLEN, *Oswego, N. Y., March 30th*, 1847.

REMARKS. — The fruit is not considered as *named* by pomologists, simply by its having one or more local titles, even if these are bestowed by those who have originated, or propagated it. It is not really *named* till a full description of it has been published in some pomological work or journal, of acknowledged authority; a description, written by some person whose acquaintance with fruit is sufficiently extensive to warrant him in describing a new variety. The merits of a name proposed by the originator or a local name that is widely known or highly appropriate, should receive due consideration from a pomologist, describing a new fruit, and the courtesy of science would lead him to adopt such names, unless there were sufficient reasons for not doing so.*

There is, Mr. BARRY has well remarked, a great desire to given new names to fruit in this country. It is an evil, however, which can only be remedied by a general knowledge of the rules, which must in future govern Pomology in this country. These are the same as those which govern nomenclature in Natural Science generally; and which were, in the main, established by LINNÆUS himself. We shall very speedily publish the rules, as we understand them, for the benefit of our readers interested in uniformity of Pomological nomenclature.—ED.

* The *Oswego Beurre* was really brought into notice by Mr. ALLEN. In Mr. READ's hands it was unknown; the name is an expressive and appropriate one, and describing it for the first time, we had a perfect right to use our own judgment in fixing upon this as the standard name.

.....

ASHES AROUND PEACH TREES.—As early as possible this month, (if not previously done) all peaches, nectarine and apricot, trees should be examined for the peach worm. By taking away the soil, three or four inches deep, it will soon be seen if the insect inhabits the bark there, by the oozing of gum. If such is the case, take the grubs out at once with the knife, and destroy them. To prevent them from attacking the tree again, form a small conical heap of *leached* ashes, or *air slaked* lime about each tree, from six inches to 8 inches high. We have found this a most effective remedy, as the insect (unless in much greater abundance than it is known here) rarely deposits its eggs any where except in the soft bark just at the surface of the ground, which by this heap of ashes or lime is covered. In the autumn the heap should be spread over the surface of the ground, and renewed again the next spring. *Fresh* lime or ashes is too strong except for large and old trees, and then can only be used in small quantities.

WATERMELONS.—The most successful grower of Watermelons that I ever knew, was a person who every year *turned under a piece of sod*, in a good meadow soil, and planted his "patch" thereon. He counted his crop by *waggon loads*, when his neighbours did theirs, raised on good, but old garden soil, by tens and scores only.

I may add, that the best Watermelon I have ever seen, is a roundish thin-rinded sort, known as the *Imperial*. It is solid, crisp and of the highest flavour, besides very productive.—*X. Y. Z. Trenton, N. J.*

.....

WORCESTER HORT. SOCIETY.—We have received from the author, a neatly printed pamphlet of 84 pages, entitled *Transactions of the Worcester County Horticultural Society, by* GEORGE JAQUES.

This Society has been in active operation about 5 years, and, from the many excellent accounts we have of it, is exerting a very marked influence on the culture of the whole interior of Massachusetts.

The annual exhibition held last autumn, was an unusually rich one. In the report of the fruit committee, we find the following paragraph:

"The number of plates and baskets of specimens exhibited, could not have fallen much short of a thousand. The most numerous of these were *apples*, comprising quite a number of valuable varieties, some of them quite new. Of *pears*, there were nearly three hundred dishes upon the table, and scarcely an inferior specimen among the whole. Some of the Seckel, Brown Beurre, Bartlett, Louisa Bonne de Jersey, and Dix, were truly magnificent. It would be safe to assert that a more beautiful display of this delicious fruit was never beheld in New England."

Among these we notice, in the detailed report, quite a number of local varieties which are highly

recommended. The climate and soil of Worcester county are remarkably favourable to fruit culture, and this pamphlet is worthy of the attention of those who desire to know something more of the spirit which governs its Horticultural Society.

.....

ONONDAGA HORTICULTURAL SOCIETY.—A meeting of the friends of horticultural improvement, was held at Syracuse on the 17th ult., when a Society under the above title was organized, a Constitution and By-laws adopted, and the following officers appointed:—E. W. Levenworth, Prest., Rufus Cossist, Asahel Dolbear, James G. Tracey, and Dr. Loomis, Vice Presidents; Thomas Smith, Treasurer; D. C. LeRoy, Cor. Secretary, and C. B. Sedgwick, Rec. Secretary.

MASSACHUSETTS HORTICULTURAL SOCIETY.

Saturday, March 6th 1847.—The PRESIDENT in the Chair.

The Committee to whom was intrusted the publishing of the Transactions of the Society, reported verbally that their work had been accomplished.

Voted, That the foregoing report be accepted, and that copies of the Transactions of the Society be laid upon the table for distribution among the members of the Society.

The Committee of publication submitted a report upon the publishing of a new series of the Transactions of the Society, and it was

Voted, That the subject be recommitted to the same Committee, with instructions to report a detailed plan of prosecution, with an estimate of the cost, the period of publication, the price at which it can be afforded to the members of the Society and the public, and report to the meeting as soon as practicable.

Voted, That the President of the Society be requested to petition the Legislature now in session, to extend the same patronage to the Massachusetts Hort. Society, that it does to the various Agricultural Societies of the State, to aid in carrying forward the general purposes of the Society, but especially to enable the Society to prosecute with vigor the publication of their Transactions, in which are to be described and figured the fruits and flowers of New-England, and particularly of Massachusetts.

A communication, accompanied with the Transactions of the Convention of Farmers, held in New-York, was received from the Hon. H. A S. Dearborn, and it was

Voted, That the the thanks of the Society be presented to the Hon H. A. S. Dearborn.

A description, with colored plates, of two new pears, was received from W. D. Brinckle, M. D., of Philadelphia, a corresponding member of the Society, and it was

Voted, To place it in the hands of the Committee of Publication.

Josiah Lovett, of Beverly, presented the Society with a letter from Thomas Close, M. D. of Port Chester, in regard to two new apples.

Voted, To appoint a Committee to set the days of the next Annual Exhibition of the Society, and Samuel Walker, E. M. Richards, and C. M. Hovey, were appointed that committee.

John Washburn, Jr., of Plymouth, was elected a subscription member.

Geo. B. Emerson, Esq. was elected a corresponding member.

March 13, 1847.—President WILDER in the Chair.

The Committee on the Library, submitted the following report:

The Committee on the Library, having recently re-arranged the books, and published a new catalogue, which has been bound up with the Transactions of the Society, respectfully beg leave to report:

For the last two or three years but little money has been appropriated for the purchase of books, and in consequence but few new works have been added to the Library. The Committee had intended, on presenting their annual report, to have asked for an appropriation for the coming year, but in this they have been anticipated by a vote of the Society, and the amount of $300 placed at their disposal, for the purchase of such books as may be selected from a list to be presented to the Society.

Agreeably thereto, your Committee would recommend the following works:

To complete Sets already in the Library.—The Transactions of the London Horticultural Society up to the completion of their quarto publication, and a continuation of them in octavo form, the first volume of which (in quarto by nos.) has just been completed.

Loudon's Gardener's Magazine, to complete the work up to its discontinuance, about 15 vols.

Noisette's Jardin Fruitier, in 2 vols. with coloured plates.

Poiteau's Pomologie Francaise, several volumes with colored plates.

Michaux's Sylva, to complete the work, 3 vols.

New Works.—Paxton's Magazine of Botany, 11 vols.

Loudon's Rural Cemeteries, 1 vol.

" Hortus Lignosus, 1 vol.

" Encyclopedia of Trees, Shrubs, &c., 1 vol.

Lindley's Vegetable Kingdom, 1 vol.

Torrey and Gray's Flora, 1 vol.

A Manual of Practical Draining, 1 vol.

Low's Breeds of Domestic Animals, 4 vols., with splendid coloured plates.

Mrs. Loudon's Ladies' Companion, 1 vol.

The Farmer's Dictionary, 1 vol.

The American Poulterer's Companion, 1 vol.

Should all these works be thought desirable to purchase, or should members have any other books which they would wish the Committee to add to the list, the amount required would exceed the appropriation. Your Committee believe that the sum of $300 should be expended in the purchase of the most useful books in the list annexed, and that the Committee be authorized, should they deem it advisable to the interests of the Society, to purchase others, to have at their disposal $100 for which they shall render a list at their next annual meeting.

They would inform the Society, that they have made choice of R. M. Copeland as Librarian, with the salary of $50 per annum, and that they have set apart the hours from 11 to 1 o'clock of every Saturday of the year, when the Library will be open.

The regulations of the Library will be strictly enforced, and books kept out longer than the specified time, will be charged in a book for that purpose, to all members who do not comply with the rules established by the Society.

Believing that in no way can the interests of the Society be so well sustained, as in the possession of a valuable Library, where the amateur, or professional man, may resort for information on all subjects connected with the horticultural art, your Committee respectfully submit this report.

C. M. HOVEY,
JOSEPH BRECK,
R. M. COPELAND, } Committee.

Voted, That the report be accepted to the full amount of the appropriation, viz: $300.

The Committee of Publication submitted a report in reference to the publishing of a new series of the Transactions of the Society, and it was

Voted, That the matter be recommitted to the same committee, with instructions to furnish an estimate in detail of the cost of publication.

Voted, That the Recording Secretary be requested to send, through the collector, a copy of the Transactions of the Society to each of the members, and to such Horticultural, Agricultural, and Literary Societies as may be deemed advisable.

March 20, 1847.—President WILDER in the Chair.

The Commmittee on Publication submitted the following report:

The Committee on Publication, of the Massachusetts Horticultural Society respectfully represent, that they have accumulated sufficient matter to enable them to enter upon the

publication of a regular series of the Transactions of the Society; and therefore recommend, unanimously, that these Transactions should be published with numerous colored engravings, and outlines of fruits and flowers, executed in the best possible manner, by the most distinguished artists of the country, and more particularly of such fruits and flowers as are of *native origin*, and in accordance with a vote of the Society, submit the following as an outline of their plan and mode of publication.

1st. That the work be entitled, "Transactions of the Massachusetts Horticultural Society," and that no pains or expense be spared to make it worthy, both of the Society, and of the advanced and still advancing progress of Horticulture.

2d. That the form shall be royal octavo, which size the Committee believe will afford sufficient room for any fruits or flowers, of which plates may be required.

3d. That the work be stereotyped, and also the proceedings of the Society, and bound together at the period of its publication.

4th. The Committee contemplate to publish the work quarterly, or oftener, if necessary; and estimate the cost of 1000 copies of each number as follows:

For 4000 (more or less) splendid colored engravings, say,	$600
Stereotyping,	70
Printing, paper, wrappers, &c.,	80
	$750

5th. To charge the members of the Society *seventy-five* cents, and the public *one dollar* for each part, which, including the publisher's commission, will be about the prime cost of the work.

The Committee would suggest that the Society, at some future time, offer premiums for essays on Horticultural subjects, for the purpose of publishing with the Transactions of the Society, and thereby render the work valuable to its members, and extremely useful to the public.

It will be seen by this plan, and these estimates, that your Committee contemplate the execution of the work in the very best style of excellence, believing that the sale of the work, executed in this manner, will pay all the expenses, yet, if it be only just above mediocrity, it may entail loss on the friends of the Society.

Your Committee would further state, that for the present, and until the demand for the work, by the members of the Society and the public, shall have been ascertained, that they intend to publish only two hundred copies of the first and second numbers; to enable them to do this, and prepare drawings, &c. for future numbers, it may require the sum of one thousand dollars. After the two first parts are published, it is expected the sales will furnish the means to publish the succeeding numbers. Therefore

Voted, That the Committee of publication be requested to draw up and publish a prospectus of the Transactions of the Society, in accordance with the above plan, and proceed to print and publish said work at such periods as they may deem it expedient, and that they be, and hereby are, authorized to draw on the Treasurer of the Society for any sum not exceeding one thousand dollars, to defray the expenses thereof. All of which is respectfully submitted.

By order of the Committee.

SAMUEL WALKER.

Voted, That the report of the Committee of Publication be acceptedd.

The President reported, verbally, that he had petitioned the Legislature for a grant, equal to the patronage bestowed heretofore on *Agricultural* Societies, by the State, as requested by the Society.

Voted, That the meeting be dissolved.

April 3, 1847.—President WILDER in the Chair.

A letter was received from JOSIAH BRADLEE, Esq., an honorary member of the Society, enclosing a check for five hundred dollars, for the purpose of being added to the permanent fund for premiums on fruits and flowers, and it was

Voted, That the thanks of the Society be presented to our highly esteemed honorary member, JOSIAH BRADLEE, Esq., for his liberal donation of five hundred dollars. Also,

Voted, That the above vote be transmitted to Mr. Bradlee, with a complimentary letter by the Corresponding Secretary.

The President stated, that some months since, he had placed in the hands of Mr. De Wall, a corresponding member, residing at Antwerp, a private order for scions or trees of any new varieties of pears, that he might be able to furnish, and that it appeared from an extract of this gentleman's letter, that he considered the order *official*, and should send a package for the *Society*, since which no advices from him had been received.

The President further stated, that he had responded in part, to the intimated wishes of Mr. De Wall, by forwarding 7 vols. of valuable books, and should attend to his remaining requests, as early as practicable, at his own expense; that should such a package arrive at this *late season*, it would require immediate attention, and he desired the direction of the Society, remarking that if it was disposed of in accordance with the original order, he should be happy to dispense *scions* to the Fruit Committee, of any varieties that may prove desirable. Whereupon the following vote was passed:

Whereas, the President having given a private order for trees and scions to Mr. De Wall, and having also responded to this gentleman's orders at his own expense—therefore,

Voted, That should such a package arrive from Mr. De Wall, that the President be authorized to take it to his own account, dispensing, as he has liberally offered, scions to the Fruit Committee, of such as may prove desirable.

Letters acknowledging the receipt of the notice of their election as corresponding members of the society, were received from the following gentlemen:

George B. Emerson, Boston; Prof. Asa Gray, Cambridge; Prof. E. N. Horsford, Cambridge; J. B. Russell, Cincinnati; Luther Tucker, Albany; Wm. D. Brinckle, M. D., Philadelphia.

Voted, That the thanks of the Society be presented to Geo. B. Emerson, Esq., for a copy of his "Report upon the Trees and Shrubs growing naturally in the forests of Massachusetts."

Voted, That the thanks of the Society be presented to J. B. Russell, Esq., of Cincinnati, for *Packages* of *new seed*, from the *Rocky Mountains*, and that the *seed* be placed in the hands of the Committee on Flowers for distribution.

Voted, That the thanks of the Society be presented to R. Buist, Esq., of Philadelphia, for a copy of the 2nd edition of his Manual upon the culture of the Rose.

A communication was received from William R. Smith, Esq., of Macedon, New-York, accompanied with *scions* of the following varieties of fruits. Red Canada and Early Joe Apples; and Onondaga and Osband's Summer Pears.

Voted, That the thanks of the Society be presented to Wm. R. Smith, Esq., and that the scions be placed in the hands of the Committee of Fruits for distribution, and that the Recording Secretary be requested to register the names of such members as may receive the same.

Voted, That the *twentieth* section of the by-laws of the Society, be amended by striking out all after the word "them" in the twenty-second line, to the end of the section.

April 10, 1847.—President WILDER in the chair.

Voted, That in consequence of the intention of this Society to publish its transactions, the materials of the Society will in future be wanted for its own work, and will not be allowed to be used for any other publication.

The scions received from William R. Smith, Esq., of New-York, were distributed to the members of the Society.

A communication was received from A. H. Ernst, Esq., of Cincinnati, a corresponding member of the Society, accompanied with a package of scions of fourteen varieties of Apples, and one of Pears.

Voted, That the thanks of the Society be presented to A. H. Ernst, Esq., that the communication be placed in the hands of the Committee of Publication, and the grafts in the hands of the Committee on Fruits for distribution among the members.

Voted, That the tickets for the Annual Exhibition be prepared as heretofore.

EDWARD C. K. WALKER, *Rec. Sec.*

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TILDEN FOUNDATIONS

THE CEDAR OF LEBANON.

Full grown Tree at Foxley, planted by Sir Uvedale Price.
[Scale 1 in. to 12 feet.]

[Horticulturist, June, 1847.]